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BY
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DEPUTY SUPERINTENDENT.

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THE RECENT EXAMINATION OF TEACHERS.

To the Editor of the Journal of Education.

SIR,—The answers given to the first-class papers in Algebra and Natural Philosophy, at the recent examination for teachers' certificates, are such as to call, in my opinion, for some remark. I have added to this letter a few notes, in which I show how to solve all the questions proposed, except one or two, which are of a very simple character.

The answers to the questions in Algebra are, on the whole, a signal failure. I do not think that any person, who is competent to pronounce a judgment, will say that the Algebra paper is too difficult. With the exception of the last problem—which was not taken into account in fixing the total value of the paper, but was introduced for an important purpose, mentioned below—it contains nothing which does not lie directly in the line of familiar Algebraical principles, or which a candidate for a first-class certificate ought not to be able to solve off-hand. The notes which I have appended will show how easy the questions are to a moderately qualified student; yet not one of the candidates who presented themselves at the recent examination for first-class certificates is entitled to 60 per cent. of the total marks; and the great majority of them fall very far below that point.

I regret to say that the ladies have been particularly unsuccessful in this department. There were 21 female candidates for first-class certificates—20 of them being Normal School

students—and none of them obtained 40 per cent. of the marks assigned to the Algebra paper; 18 out of the 21 fell below 30 per cent., 13 out of the 21 were under 20 per cent., and 7 out of the 21 were under 10 per cent. It may perhaps be said that this extraordinary record proves the paper to have been too difficult; but I deny that this is the case. I appeal to the notes below, as proving that the questions, though they may perhaps not be of a kind to suit mere rule-of-thumb Algebraists, are really simple to those who have an intelligent apprehension of the elementary principles of the science.

In Natural Philosophy one gentleman answered with substantial accuracy, though with occasional imperfection. In expression, all the questions proposed, except one where he was partially wrong. A considerable number of other gentlemen made a creditable appearance in this branch; but I am obliged to say that the papers of the ladies in Natural Philosophy were, for the most part, like their papers in Algebra, a signal failure. Ten ladies, out of twenty-one who competed, failed to get more marks than were assigned to the correct answer of a single question.

Here, again, it would be ridiculous to say that the paper is too difficult for first-class teachers. The solutions, given in the notes appended, will show that the paper is really a very easy one—that is, to a person who knows anything of the principles of Natural Philosophy, and has not merely got up some rules by rote. But as it is not unlikely that the cry of *difficulty* may be raised, I will state two facts which should be conclusive. The first question on the paper asks how the velocity of a moving particle is estimated, when the velocity is not uniform. Only one lady out of twenty-one answers this clearly and correctly; two others give ambiguous answers; the rest give no answer, or an answer which is decidedly erroneous. This fact, of course, means that 20, or at least 18, out of the 21 female candidates for first-class certificates, are ignorant of the science of Dynamics. Again, the fourth question asks:—what power will sustain a weight of 40 lbs. in a system of two moveable pulleys, where each pulley hangs by a separate string, the weight of the pulleys (each of which weighs 2 lbs.) being taken into account? Inability to answer this question means ignorance of the elementary principles of Statics; and yet the question was answered by only four ladies out of twenty one.

I have sometimes doubted whether it is desirable to make the study of Algebra and Natural Philosophy, any more than that of Geometry, compulsory on female teachers. I do not question the ability of ladies to learn these branches; but ought they to be required, in the present state of female education throughout the Province, to do so? Would it not be better to grant first-class certificates to female teachers, if they had the necessary attainments in other branches, and in the event of their passing a successful examination in Algebra and Geometry, and Natural Philosophy, to add this to their certificate as a circumstance which would enhance the value of the certificate? One advantage of such an arrangement would be that those ladies who wished to study Natural Philosophy, might be required to prepare themselves for doing so by a previous course of Geometry as well as of Algebra; and the master, whose duty it is to teach Natural Philosophy in the Normal School, would be delivered from the hard and (in some respects) impracticable task of giving instruction in this science to a class, one-half of the members of which have no acquaintance with the elements of Geometry. I have no desire to make rash changes. I only throw out an idea which has frequently occurred to me, and which the recent examination has forcibly revived.

The Principal and masters of the Normal School have become satisfied that new arrangements are necessary to render that Institution thoroughly efficient; and, acting on their representation, the Chief Superintendent and the Council of Public Instruction have framed regulations as to the entrance examination to the Normal School, and the curriculum to be pursued, which I have no doubt will have a very beneficial effect.

I am, sir,
Your obedient servant,

GEORGE PAXTON YOUNG,
Chairman of Central Committee.
Toronto, 13th Jan., 1872.

ALGEBRA.—First Class.

1. The first question in the Algebra Paper, though simple and even elementary in its character, was correctly answered by a comparatively small number of the candidates. The expressions, whose product is to be found, may be written in the forms,

$$(x^2 - x - 1)\sqrt{-1} - (x^2 + 2x - 1),$$

$$(x^2 - x - 1)\sqrt{-1} + (x^2 + 2x - 1).$$

The product of these is, $-(x^2 - x - 1)^2 - (x^2 + 2x - 1)^2$. Expand and arrange according to the powers of x , and the required result is obtained.

2. Very few of the candidates answered the second question in the Algebra Paper. I am at a loss to understand what puzzled them. Divide every term by x^n . Then

$$x^{m-n} - (a^2 - b^2) = 4ab \frac{m-n}{2},$$

a quadratic which can be solved by the ordinary rules.

3. Most of the candidates solved the equation in the third question, finding $x = \frac{5}{4}$. But not many succeeded perfectly in showing that this value of x , when substituted in the given equation, satisfies the equation. In fact, the substitution gives us

$$\sqrt{\frac{9}{4}} - \sqrt{\frac{1}{4}} = 2.$$

Now $\sqrt{\frac{9}{4}}$ has two values, $+\frac{3}{2}$ and $-\frac{3}{2}$; and $\sqrt{\frac{1}{4}}$ has two values, $+\frac{1}{2}$ and $-\frac{1}{2}$. We require to take the former value of the first expression along with the latter value of the second, thus:

$$\frac{3}{2} - (-\frac{1}{2}) = \frac{3}{2} + \frac{1}{2} = 2.$$

4. The fourth question was correctly answered by the majority of the candidates.

5. The fifth should have presented no difficulty to a candidate for a first-class certificate; but, out of thirty-eight papers which I have examined, only one, that of Mr. J. Derness, contains a perfectly correct answer. Let r be the common root. Then

$$r^2 + pr + 3 = 0$$

$$r^2 + (p-10)r - 7 = 0.$$

$$\therefore 10r + 10 = 0 \text{ and } r = -1.$$

Hence, from the first of the given equations $p = 4$. Divide $x^2 + 4x + 3$ by $x + 1$, and we get $x + 3$. Therefore the second root of the first equation is -3 . The second root of the second equation is found in the same way.

6. A considerable number of the answers to the sixth question were unsatisfactory. Many of them gave me the impression that the candidates were trying to remember something they had met

with in their text-books, but had never understood. As the question is book-work, I need not give the solution here.

7. Only one of the papers which I have examined, that of Mr. W. G. Carson, contains a correct solution of the seventh question. The following is Mr. Carson's solution, E is the middle point of AC, and D of BC:

$$\frac{x}{2m} = \text{P's time from A to E.}$$

$$\frac{x}{m+1} = \text{P's time from E to D.}$$

$$\frac{x}{2m} + \frac{x}{m+1} - 1\frac{1}{2} = \text{time Q travels to D.}$$

$$\frac{x}{2m} + \frac{x}{m+1} - 1\frac{1}{2} = \text{time of Q from D to C.}$$

$$\frac{x}{2(m+1)} = \text{P's time from D to B.}$$

$$\frac{x}{2(m+1)} - \frac{1}{2} = \frac{x}{2m} + \frac{x}{m+1} - 1\frac{1}{2}$$

$$\frac{x}{2(m+1)} = \frac{x}{6m} + \frac{x}{3(m+1)} - \frac{1}{2}$$

$$3mx = mx + x + 2mx - m^2 - m$$

$$x = m(m+1).$$

8. As Mr. Carson's papers are open before me, I may give his solution of the eighth question also. He takes v, x, y and z as the numbers sought.

$$vxy = 1, xyz = 8, yxz = 27, vxz = 64$$

$$(vxy)^3 = 14824, \quad vxz = 24$$

$$vxy = 1.$$

$$\therefore z = 24.$$

$$vxy = 24, yxz = 27, x = \frac{8}{9}.$$

$$vxy = 24, vxz = 64, y = \frac{3}{8}.$$

$$vxy = 24, xyz = 8, v = 3.$$

9. The following solution of the ninth question is from the papers of Mr. Derness. Every number, or any number n , when divided by 3 will give a quotient without a remainder, or with either 1 or 2 as remainder.

$$n = 3q$$

$$\text{or } 3q + 1$$

$$\text{or } 3q + 2.$$

$$\therefore \text{1st. } -n^2 = 9q^2$$

$$\text{2nd. } -n^2 = 9q^2 + 6q + 1$$

$$\text{3rd. } -n^2 = 9q^2 + 12q + 4.$$

Evidently the first is divisible by 3. In the 2nd the first two terms are divisible by 3; therefore if we add 2 to the third term, it renders it divisible. In like manner it may be shown that the third is divisible by adding 2 to 4, equal to 6 [which] is divisible by 3.

10. The tenth question has not been solved by any of the candidates whose papers I have yet examined. Where is the difficulty? Let $2x$ = rate required, and y the distance between A and B. Then

$$y \left\{ \frac{1}{2x+4} + \frac{1}{2x-4} - \frac{1}{x} \right\} = \frac{39}{60},$$

$$\text{and } y \left\{ \frac{1}{3x+4} + \frac{1}{3x-4} - \frac{2}{3x} \right\} = \frac{8}{60}.$$

Eliminate y , and the result is a pure quadratic, giving $2x = 6$.

11. The eleventh question, as being somewhat peculiar, I did not take into account in fixing the total value of the paper; so that its presence in the paper could be an injury to no candidate, though it might be of service to some. It has not been solved by any of the candidates whose papers I have yet examined. I gave it for the purpose of exemplifying a method which is of the greatest use in Algebra. It is easily seen that the law, which has to be established, holds for a certain number of terms. For instance, it is true when the series consists of only one term, or when it consists of two terms; for $1^2 = 1^2$, and, $(1+2)^2 = 1^2 + 2^2$. Now, when a law has been ascertained to hold good for a certain number of terms, how do we proceed to show that it holds universally? In this way: assume that it has been found to hold for $(n-1)$ terms. Then prove that it holds also when n terms are taken. If this can

be done, it must hold whatever number of terms be taken. In the case before us, assuming the law to hold for $(n-1)$ terms, let

$$1 + 2 + \dots + (n-1) = s,$$

$$1^2 + 2^2 + \dots + (n-1)^2 = S. \text{ Then}$$

$$(1 + 2 + \dots + n)^2 = (s + n)^2 = s^2 + 2ns + n^2.$$

But, by hypothesis, $s^2 = S$. Also, $s = \frac{n(n-1)}{2}$. Therefore

$$(1 + 2 + \dots + n)^2 = S + n^2(n-1) + n^2 = S + n^3$$

$$= 1^2 + 2^2 + \dots + n^2.$$

NATURAL PHILOSOPHY.—First Class.

1. I ask particular attention to the first question, because a large number of the papers which I have read—not less than fifty per cent.—exhibit the most indistinct and erroneous ideas in regard even to so elementary and fundamental a matter as the mode of estimating the velocity of a moving particle, whose velocity is not uniform. The following answer, by Mr. John F. MacLaren, is correct: "The velocity of a moving point, when the velocity is not uniform, is estimated by finding the space through which the point would move in a certain unit of time, were it to keep the same velocity throughout that unit of time, which it had at the beginning of it."

2. The second question presents no difficulty.

3. Very few correct answers have been given to the third question; and none are as simple as they might have been. Let H be the highest point to which the first particle rises, and P the point where, in its descent, it meets the second particle ascending. Then, as the one particle is a second ahead of the other, a second is occupied with rising from P to H, and again falling from H to P. But the times of rising and falling are equal; therefore, it takes half a second to fall from H to P, and therefore HP = 4 feet. But the height of H above the ground is 1600 feet. Hence P is 1596 feet above the ground.

4. The fourth question is easy book-work.

5. Almost all the gentlemen, whose papers I have read, have answered the fifth question correctly; but it has been answered by only three ladies out of twenty. This, as I have observed above, is a significant fact. The problem is of the simplest character. Can any one, who understands the elements of Statics, fail to perceive that the weight being 140 lbs., and the pulley to which it is attached weighing 2 lbs., the tension of the string passing round that pulley must be $\frac{4}{3}$ or 21? In like manner the tension of the string passing round the second pulley must be one-half of $(21 + 2)$, that is, it must be 11½.

6. The following is the answer given to the sixth question by Mr. J. G. Hands.

Weight of flask = y

Weight of air = $y - x$

Weight of water in vacuo = weight of flask and water, minus weight of flask, plus weight of air displaced

$$= w - y + y - x = w - x.$$

$$\therefore \text{Specific gravity of air} = \frac{\text{weight of air}}{\text{weight of water}} = \frac{y - x}{w - x}$$

The question was correctly answered by almost all the other gentlemen, whose papers I have read, and by four ladies out of twenty.

7. The seventh and eighth questions are book-work.

8. The ninth question is solved with substantial accuracy by several gentlemen, though all the solutions which I have read contain defects of expression. From CA cut off CF = AE. Join BF, DF. Then BEDF is a parallelogram. The resultant of the forces EB and ED is EF. We have, then, acting on the particle at E, the following forces:

In the direction EA, --- a force represented by EC.

In the direction EC, --- a force represented by EA, together with a force (the resultant of EB and ED) represented by EF.

But EA and EF, which are equal to CF and EF, are equal to EC. Therefore the particle at E is kept at rest.

9. The following solution of the tenth question is from the papers of Mr. J. G. Hands:

The weight upon which the force of gravity acts is only 2 lbs.; 10 lbs. of B being counterbalanced by A. But the weight to be set in motion is $10 + 12$, the sum of A and B. Hence

$$\text{Velocity} = \frac{2}{22}g,$$

that is $\frac{1}{11}$ th of the velocity produced by gravity upon a particle moving freely.

General formula ---

$$\text{Velocity of A and B} = \frac{A - B}{A + B} \times g.$$

[Mr. Hands, in this last line, has written A - B for B - A, manifestly by oversight. Other gentlemen have given the numerical value of the result, obtained by putting 32 for g , namely, $2\frac{1}{11}$. One gentleman, Mr. Derness, correctly remarks that this problem contains the principle of Atwood's machine.]

To the Editor of the Journal of Education.

SIR,—The prepared answers of the following questions in the recent examination papers on Arithmetic were wrong:—

Divide £4,762 15s. 9d. by 300. Ans.—£15 17s. 6 $\frac{3}{4}$ d. (Question 1, III. Class). A coal dealer bought 784,000 lbs. of coal at \$4.50 per ton (2,340 lbs.), and sold 524,500 lbs. at \$5.50 per short ton (2,000 lbs.), and the balance at \$4.20 per short ton. Find his whole gain? Ans.—\$412.32½. A circular fish pond of 90 feet radius is surrounded by a walk 25 feet wide. Find area of the walk? Here the radii are 90 and 115, then sum of radii multiplied by their difference = 5,125, which multiplied by 3.1416 gives the required area. (Question 12, II. Class). The above questions are so very simple that the errors in the given answers would be detected at once, and I am safe in saying that the candidates would suffer no injustice, because, if a candidate's answer does not agree with the given answer (even if correct), the Examiner is bound to read the proffered solution, and to allow for accuracy of reasoning whilst deducting for inaccuracy of result. No one correctly solved the following question, No. 4, I. Class:—City of Toronto 6 per cent. Debentures, having six years to run, are offered for sale. What price shall I pay in order to realize 10 per cent. on my investment? Now the amount of \$100 for 6 years at 6 per cent. is 100 (1.06)⁶, which must equal the amount at 10 per cent. for 6 years, of the price paid—hence, for every \$100, I should pay $100 \times \left(\frac{1.06}{1.1}\right)^6$.

Only two or three candidates (students of the Normal School, I believe), solved the following question (6th, Class I.):—A man bought a farm for \$5,000, and agreed to pay principal and interest (6 per cent.) in four equal annual payments. Find the annual payment? Most of the candidates that attempted the solution of this question, found the amount, at compound interest, of \$5,000, and divided that amount by four for the annual payment, thus proceeding on the false principle that an annual payment of \$100 (6 per cent. interest) will amount to \$400 in 4 years. They should have found what annual payment continued 4 years will give the amount of \$5,000 for 4 years. I need hardly say that compound interest is the only correct principle to employ in the solution of the last two questions.

The 6th question in 1st Class Book-keeping paper, the solution of which has been declared "impossible," is as follows:—

What is meant by averaging an account? What is the balance of the following account, and when is it due?

JOHN SMITH.

1871.	Dr.	1871.	Cr.
March 1...	To Sundries.....	March 25...	By draft at 60 days.....
April 12...	" Goods.....		
July 16...	" ".....	April 6...	By draft at 30 days.....
Sept. 14...	" ".....		
		June 20...	By cash.....
		Aug. 3.....	" ".....

Solution of the above by Mr. McColl.

Averaging an account is finding at what time several debts due at different dates might be paid without loss to either party, or at what time an account would properly begin to draw interest.

The balance of the account is \$1,832 - \$1,334 = \$498. Assuming March 1st as date of reference we have:—

Dr.	Cr.
\$436 × 0 = 0	\$400 × 87 = 34800
548 × 42 = 23016	650 × 69 = 44850
312 × 137 = 42744	200 × 111 = 22200
536 × 189 = 105592	84 × 155 = 13020
	(Days of Grace allowed.)
171352	
114870	114870

Balance..... 498) 56482(113 days from March 1st = June 22nd, 1871, when the balance should be paid.

Mr. J. G. Hands gave the same solution, and Mr. J. Derness and Miss Meehan, taking September 14th as date of reference, obtained the same result. These four were Normal School students.

J. A. McLELLAN.

a Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds. * (2).

R E M A R K S .

P E M B R O K E .—On 10th, sleighing commenced. 15th, wind storm. 13th, 10th, 11th, 16th, 22nd, 24th. Rain, 1st, 14th, 15th, 20th, 21st. The last vessel of the season was locked through the Cornwall Canal on 24th, there being ice in the canal; that evening a thick crust of ice formed over the canal.

C O R N W A L L .—On 9th, brilliant aurora—at 6 p.m. the whole northern sky was a sheet of red flame, and in the south was an arch, which was almost a complete circle, of beautiful white light; an immense bar of crimson in the N.W. was particularly gorgeous; toward the E. the light had a dark tinge, as if it shone through smoke. Snow, 2nd, 7th, 28th, 30th. Rain, 1st, 2nd, 14th.

P E T E R B O R O U G H .—On 9th, at about 5.23 p.m., large irregular track of crimson light appeared in N.Z.; about 6, scattered irregular columns of bright crimson—one particularly large at N.W. Z.—crimson increased in intensity and became streamers. The “oldest inhabitant” never saw the crimson so bright, or so much of it. The ordinary auroral light the soon afterwards began to appear in slight streaks, and by degrees the crimson changed into the usual light. 18th, fog in morning. 20th, lakes frozen up. Snow, 10th, 24, 29th, 30th. Rain, 1st, 2nd, 9th.

15th, 24th, 26th. Month unusually dark, inclement, unseasonable, and cold,—the coldest November ever known here. Winter closed in unusually early. Lakes and rivers lower than ever known in consequence of continued dry weather. None of the usual fall rains. Great scarcity of water in wells and springs through the country.

BELLEVILLE.—On 8th, between 7 and 8 p.m., the sky to S. and S.W. crimson; but on 9th, after sunset, the whole N. sky overspread with a bright red glare. Strong gales, with heavy rains, 14th and 15th, depth 2.364 inches, but the ground was so parched that the Moira showed no perceptible rise. Great difficulty experienced through town and country in procuring water, "the oldest inhabitant" not remembering so long continued a drought. Very low temperature on 30th. Snow, 10th, 16th, 24th, 29th. Rain, 1st, 2nd, 10th, 14th, 15th, 20th.

GODFRICH.—On 15th, wind storm. Snow, 13th–15th, 26th–30th. Rain, 2nd, 9th, 10th, 13th–15th, 26th.

STRATFORD.—On 9th, mill-pond frozen. 23rd, lunar circle. Wind storms, 14th, 15th, 16th. Fog, 18th. Snow, 9th, 10th, 14th, 15th, 21st, 22nd, 24th, 26th. Rain, 10th, 14th, 19th, 21st, 26th. Difference of mean monthly temperature, from average of ten years, was $-7^{\circ}02$. Scarlet fever prevalent and fatal.

HAMILTON.—On 8th, meteor E., 45° high, fell S. at 8.45 p.m. 9th, at 5.45, N. sky brilliantly lighted by a grand display of aurora of a crimson color; streamers faint of same color; all disappeared about 6.45, afterwards there appeared a faint aurora of the ordinary color. Wind storms, 4th, 7th, 15th. Fog, 10th. Snow, 10th, 15th, 22nd, 23rd, 24th, 28th. Rain, 10th, 14th, 15th, 20th, 24th, 26th. Weather on the whole pleasant, but at the close of the month an unprecedented cold set in. The temperature fell to 8.9 below zero. Snow to depth of 8.29 inches fell.

SIMCOE.—Wind storms, 9th, 10th, 14th. Snow, 19th, 20th–24th, 28th, 29th. Rain, 4th, 10th, 11th, 14th–16th, 26th, 27th. A very gloomy month, with lowering sky, but little precipitation. Unusually cold and cheerless. Sickness in town and neighbourhood,—diphtheria prevalent and extremely fatal,—the epidemic threatens to close the school.

WINDSOR.—Wind storms, 14th, 15th. Snow, 14th, 22nd, 24th, 28th. Rain, 9th, 13th, 14th, 19th.

2. METEOROLOGICAL OBSERVATIONS.

Mr. Thomas D. King writes a very excellent letter to the *Montreal Daily News*, urging the necessity for a system of meteorological observations throughout Canada, and pointing out their value to those engaged in commerce, navigation and agriculture, as well as to those who are charged with looking after the sanitary affairs of the country. He points out several phenomena over which the wise men of the country are just now puzzling themselves, but which they can furnish no satisfactory explanations, owing to the lack of data which a series of observations extending over the whole country and through a number of years would probably supply. The observant can scarcely have failed to notice the peculiar features which have characterized the seasons at intervals for years past, each more or less marked, yet for want of a reliable, systematic, aggregated record of these phenomena by which the effect could be traced to its cause with some degree of certainty people know now almost as little concerning them as they ever did. True, they know that such things had been, and they may even have noticed that each had produced its peculiar effects, but to trace them to their several causes, to predict the recurrence of any of them, or to describe the signs by which their respective comings or goings are indicated, is as much an unsolved problem with ninety-nine out of every hundred of the inhabitants of the country as it ever was, and is likely to continue to be unless some systematic plan of collecting and preserving the necessary information is adopted.

Says a writer, "When the fall of rain is less than the average, springs become dry, and rivers low, and milling operations dependent upon our streams are at a stand still, and when the fall is excessive it has an injurious effect on the sanitary condition of the people, as well as a damaging effect on the country at large;" but how are we going to predict either condition with sufficient accuracy to guard against its effects unless we know its causes. Mr. King says, and truly so, that "whatever causes produce the diminution of the rain-fall, they cannot be solved solely on theoretical considerations. It is only from long series of exact and methodically grouped observations that indisputable results can be obtained; but unfortunately such observations are so few in number and extend over such comparatively short periods in Canada, that it might almost be said we know nothing practically of the science of meteorology."

To pave the way for future amendment, and it is high time that some steps in that direction were taken, Mr. King suggests that "observations be at once commenced in order to set forth the advantages that would result from the pre-announcement, at the right time, of the approach of bad weather. Let the pupils of our Normal Schools and the students in our colleges, under the direction of a master, daily take meteorological observations, to be published in the Journals of Education and Practical Agriculture." He says: "the reception, accorded by our maritime populations, of the warnings furnished them by the public observatories of Europe and America causes us to foresee the time at hand when our farmers and mariners will claim similar attention from the solicitude

of our Ministers of Agriculture and Marine." In an article published a few days ago we pointed out the value of a system of meteorological observations, also the means by which such a system could be put in operation, which we strongly urged upon our authorities. We agree with Mr. King that the pupils of the Normal schools should be taught to take meteorological observations, and, we would add, that the pupils of every common school should also be taught to do so. The importance of this class of information cannot be over-estimated; and it would be well if our educational authorities made some provision for its being introduced to our schools, as one of the branches in which every child should be required to attain a moderate degree of proficiency.—*Hamilton Spectator*.

"The writer of this and other articles on the subject quite overlooks the fact that the Education Department for Ontario has had for years the most successful meteorological stations established in connection with the High Schools, and that their reports carefully collected by Mr. Marling, of the Department, are published every month in the JOURNAL OF EDUCATION."

II. Miscellaneous Correspondence of the Journal.

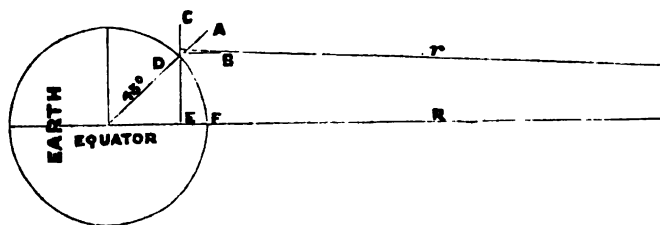
1. NEW METHOD OF FINDING THE DISTANCE OF THE SUN FROM THE EARTH.

LINWOOD, October 7th, 1871.

To the Editor of the Journal of Education.

DEAR SIR,—The following idea of finding the distance of the sun from the earth suggested itself to my mind over three years ago. Since that time it has been in the hands of several gentlemen of education, each of whom has pronounced the theory correct; and as I have been from time to time advised to forward it to some scientific journal, I now forward it to you, and if you deem it worthy of "being made public," you can place it in the columns of your admirable journal.

The whole was the result of an argument I had with a party who believed not in the rotundity of the earth, and that the sun passed around the earth once in every 24 hours. In opposition to his views, I, of course, adopted the old argument, viz.: the awful velocity at which the sun would have to travel in order to wend his way, in 24 hours, around a circle 190 millions of miles in diameter. But it was of no avail. My opponent would not believe that the sun was so distant, and said, "Can you prove to me in plain figures that the sun is so far away? If you can, I will believe you; if you cannot, I will still adhere to my own theory." This started my mind to work, and resulted as follows:—



EXPLANATIONS.—D A, a perpendicular at the point, 45° ; D B, a line of limited length, at an angle of 45° southward from A, also parallel to a perpendicular at the equator; D C, a line of limited length, at an angle of 45° northward from A, also parallel to a level at the equator; D E, the distance from the point, 45° , to the equator, cutting off the arc, D F E; r, the sun's rays falling upon the earth (time, noon), at 45° ; R, the sun's rays falling perpendicularly on the earth at the equator (time, noon). NOTE.—It is only for convenience I take the point 45° , and the time equinox. Now, it is evident that R, with its extension F E, forms a perpendicular. It is also evident that the line C E forms a base, and that the angle C E F is a right angle: therefore the sun's ray at 45° , or r, forms a hypotenuse, and therefore by a simple experiment (forming the angle C D B, C D forming a base, and being parallel to a level at the equator, and D B forming a perpendicular, and being parallel to a perpendicular at the equator), and by finding the distance from D to E, we can by simple proportion find the distance of the sun from the earth: for, the sun's ray (time, noon,) striking B D at the point B will cast a certain shadow on the base, D C, and as the length of that shadow is to the whole distance from D to E, so is the altitude of the point B to the height of the sun; or let w = length of shadow cast from B D, and let x = whole distance from D to E, and y = altitude of B, and z = height of the sun, then as $w : x :: y : z$, $z = \frac{x y}{w}$, and as the values of w , x and y can be found, therefore we can find the value of z , or height of sun.

2. DIOPHANTINE PROBLEM.

To the Editor of the Journal of Education.

The legs of a carpenter's square are 2 feet and 1 foot, and the hypotenuse is the square root of 5, but this root cannot be exactly found. How much then should one cut off the 2 feet and add as much to the 1 foot, so that the hypotenuse can be *exactly* found?

NOTE.—It is desirable to not cut more than one inch, for the question has many answers.

JOHN IRELAND, *Teacher,*
S. S. No. 9, W. Garafraxa.

3. *To the Editor of the Journal of Education.*

SIR,—In the whole range of mechanical art there is nothing so interesting and instructive to either old or young as the study of the steam engine, and the properties and uses of steam. And I write to ask you whether the Department is in connection with, or can recommend me to, any artisan or philosophical instrument maker who could make for us not a flimsy, ill-fitted toy, but a really good, compact, useful model of either an upright, horizontal, oscillating, or beam engine or locomotive. I think that were such to be obtainable at reasonable rates, our Public Schools would largely patronize this department of mechanics, as probably no branch of practical study would be gone into with more zest, or would yield so much useful knowledge as an acquaintance with this most useful and extensively used and dangerous agent—dangerous only, however, when in the hands of the ignorant and untutored.

Very respectfully yours,

R. BLACKWOOD.

Waterloo, Jan. 22nd, 1872.

4. SUPERANNUATED TEACHERS' FUND.

To the Editor of the Journal of Education.

The determined resistance of so many teachers against that clause of the new School Act requiring them to pay \$4 a year to this fund, affords grand opportunity of knowing that *teaching* is not the ultimate object of the teachers in Ontario. If their ambition culminates in their present business, that resistance is incompatible with fairness, wisdom and liberality. If they want to earn a few hundred dollars to carry them through a college course in the legal or medical profession, four dollars a year is a small tax for the privilege to intrude. If they want to follow teaching till they become superannuated, they have deplorable proof in every county of the necessity for providing for old age. It would be an unfortunate conjuncture of pride, poverty and ingratitude, if teachers should, in old age and exigence, refuse to accept their own contributions so liberally supplemented by the Government grant. If a teacher should be so fortunate as to find himself independent in pocket as well as in principle, it would be a hardship for him to suffer compulsion and grumbling to rob him of his claim to liberality in giving his pension to the unfortunates of his own avocation. I fear it is not the *mode* of paying the money, but the four dollars themselves that is the real trouble. I believe, that in a majority of cases, there is a better moral principle evolved from objecting at once to the paying of money itself, than there is evolved from objections to modes. The new Ministry will, it is likely, be asked to "rescind the obnoxious clause." Their refusal to accede to a request so palpably injurious to the petitioners themselves, will not only evince a generous respect for the Opposition, ex-Government, passing the clause, but will be a proof that a member of Parliament cannot consistently and ideally represent every one.

JOHN IRELAND,
Teacher, Garafraxa.

III. *Papers on Education in Ontario, &c.*

1. WORKING OF THE NEW LAW AND REGULATIONS—EXAMPLE.

An Inspector, writing to the Department, illustrates the working of the new School law and regulations as follows. The extract is most instructive and interesting. It shows how absolutely necessary the little "outside pressure" caused by the new law has been:—

"I examined the ——— School a few days ago and sent for the

trustees - of whom two were at home and came. In my visitation report lately sent in, I had reason to speak of this school as being in an unsatisfactory state. I was pleased to see much improvement, principally in much greater accuracy in all school work, the introduction, to a considerable extent, of the new course of study. A taste for drawing is being developed. One girl showed some pencil drawings very fairly done. The present school-house is a substantial brick building, not well lighted, and furnished in the old style. From eight to ten are seated at one desk. There is great difficulty in any individual getting out, the desks being very close so as to economise room. Forty scholars *might* be accommodated. There were present 59, and the teacher expected 15 or 20 more soon! It is a question whether humanity would not demand that the smaller of these children be forbidden to attend school till there is room for them. You will naturally ask if this is a poverty stricken region, and if the parents of these children are prevented by insurmountable difficulties from providing comfortable school accommodation for those so dear to them. No, it is the *richest rural neighbourhood in the county*. Better farming lands or more comfortable and substantial buildings are not to be seen anywhere. To none of these ratepayers would the necessary tax be burdensome, and to many it would be the merest trifle. One of these opulent farmers owns and occupies the largest and most beautiful private residence (I think) in the county. Another, who in my presence promised a hundred dollars over and above his tax if a school-house were built to suit his taste, sells grapes by the ton. Both of these gentlemen are advocates for 'children's rights.'

"To teach properly in the present school-house is simply impossible if the present number of scholars attend. It is easy to picture to oneself the state of discomfort of all the inmates—teacher and scholars. There is no opportunity of cultivating the habits of mutual courtesy, which ought to be encouraged in school, in the unavoidable pressure and crowding, the less lovely instincts are in danger of being called into action. *The majority of the trustees would be glad of some outside pressure that would relieve them somewhat of the responsibility.*"

2. GOVERNOR HOWLAND'S SPEECH.

From the recent speech of His Excellency Governor Howland, at the opening of the Legislature, we make the following extracts:—

"The liberal measures which the Legislature adopted at its last Session to improve our system of National Education by making the Public Schools free by law, by providing for their more efficient inspection, by giving stability to and elevating the profession of teachers, and by rendering practically symmetrical and coherent the Public and High Schools have been brought into operation, and they are likely to fulfil the most sanguine expectations of the friends of thorough and universal education.

"The demand for regular trained teachers has augmented from year to year, and the number of young persons desirous of properly qualifying themselves for the profession of teaching by a regular course of training is so largely increasing that it may be worthy of your consideration whether additional facilities should not be provided for that purpose.

"Nor less useful do I think will prove the measures of the same Session for providing, by a new School of Technology now shortly to be opened, for preparatory education of skilled men as engineers, managers and operators in the various mechanical and manufacturing establishments, and in the steamboat and railroad systems of the country. When we find these establishments are springing up and dotting our country on every side, and a network of railways is covering its surface, we should be wanting in wisdom and common prudence not to provide, as every progressive people is providing, for the scientific and practical education of classes of men to conduct these vast and important operations, and thus develop the latent and unmeasured resources of our favoured land. No maxim of civil government is more sound than that each country should provide, as far as possible by its own culture and skill, for the supply of its own wants, and the development of its own resources—and it is unquestionable that money expended to educate men for these purposes is a most profitable public investment."

3. COMPULSORY EDUCATION.

Canadian educationists should note the fact that education is progressing in South America, and that even there the compulsory system has been put in operation. Brazil, under the wise rule of its Emperor, who recently made a tour throughout Europe to notice the position of manufactures and trade there, has enacted a law making it in the chief province obligatory upon parents to send their chil-

dren, from the age of seven to fourteen, to either private or public schools, and such children whose parents are too poor to provide for them will be educated and clad at the public expense.

4. PUBLIC SCHOOL LIBRARY—LIBERALITY.

At the annual school meeting of the rate-payers of School Section No. 2, in the village of Warkworth, township of Percy, the trustees read a communication from the Rev. Dr. Bartlett, late rector of Everley, Wilts, England, offering a sum of £25 stg. to aid in the formation of a free public school library, provided that the rate-payers would raise a similar amount. Resolutions were unanimously passed accepting the very kind offer of Dr. Bartlett, and authorizing the trustees to borrow the duplicate sum of £25. A vote of thanks, together with a copy of the resolutions, was forwarded to the Rev. gentleman by the meeting.

5 THE FIRST SABBATH SCHOOL IN CANADA.

At present this subject is being discussed in several papers in the United States. We think the following letter from our old and esteemed friend, the Rev. William Smart, will settle the matter. To this gentleman belongs the honour of establishing the first Sabbath School, and to our even more aged but no less esteemed friend Adriel Sherwood, Esq., ex-High Sheriff of Leeds and Grenville, belongs the honour of being the first Sabbath School Teacher on the Continent of America. Both these worthy gentlemen, the one over 90 and the other over 80 years of age, will soon enter into the joy of the Lord, and yet many who are young and blooming with health may be called even before them. We submit Mr. Smart's interesting letter.

For the Brockville Recorder.

A question has been raised, and a considerable controversy is now carried on in the United States, as to who is the father of Sunday Schools in America? And when, and where they were commenced on this continent?

In addition to solving this question, in which no doubt your readers are interested, I hope you will allow a few words on the importance of Sabbath Schools to appear in the columns of the *Recorder*.

It is not to be wondered at, that the subject of Sunday Schools should take a deep hold on the public, and the religious mind in particular, and excite a very general interest, when we consider what a wide spread institution the School of the Sabbath now is. Not only in its rise, but in its amazing progress,—the astonishing results accomplished, and what it is likely to achieve in the church and in the world, in its future career of usefulness to the best interests of Society in every point of view.

For Sabbath Schools are like Leaven, they work in the whole mass of the community to raise and elevate it in intelligence and Christian character, and thus promoting the good of man, and the glory of God.

The establishment of Sunday Schools has given an impetus to education throughout the world, and awakened energy and improvement in every department of life.

From these institutions have been drawn the most active, learned, devoted, and successful missionaries and ministers of our churches, and I believe if the inquiry could be made, it would be found that even many of our practical engineers and men of science and skill in the various professions were first introduced into intellectual light in the Sunday School. Nor would it be too much to say, that even the civil constitution and laws of our country, as well as its municipal institutions, have been improved by the universal formation of Sunday Schools.

I only speak of what I know, and have seen with my own eyes in my native country; that the lower orders of the people, the peasantry, the workmen in the factories, and miners in the coal pits, were generally without education, and in a very low and debased condition, 60 years ago, before I left England.

Now, it should be borne in mind, that Sunday Schools, at their first establishment, were designed to change this state of things, by teaching the first rudiments of education to the children and youths of those families that could not attend the day school, either from poverty or from being employed on the week day. I may mention here the historical fact, that the first institution of Sunday Schools originated in the defeat of Mr. Brougham's Bill in the House of Commons to appropriate a small sum for the education of the masses of the people. The failure of this benevolent and enlightened measure opened the eyes of the Christian public. The churches took the business in hand, thousands of pious men and women came forward and gratuitously taught the population on the Sabbath; the result we all know.

In this country, from our excellent system of public common schools, where all, however poor, can receive an education, the Sabbath School has grown into an institution of religious instruction. In this point of view, their importance cannot be too highly estimated by every well constituted Christian mind, as these schools have in a great measure taken the place of family and parental instruction. On this account great conscientiousness and a sense of responsibility should rest on the minds of Superintendents and Teachers of Sabbath Schools.

I may further be permitted to remark that the reception of knowledge, and especially of religious instruction, if drawn from a right source, creates independence of mind and thought; and, bringing as we do into the Sabbath School the rich and the poor, the children of every class to sit together on the same form, learn the same blessed lessons from the same blessed book, uniting in singing the same beautiful hymn. And as the discipline of the Sunday School is confined to love, gentleness and kindness, administered with loving hearts and smiling faces.

It is in this way we break down the prejudices of ignorance and illfeeling, and thus a way is opened for the reception of divine light to illuminate the mind, and divine grace to change the heart, to save the soul from sin, and to qualify the redeemed sinner by Christ for eternal happiness in heaven.

In this way parents and children, neighbourhoods, and future generations may be blessed by the successful operations of one Sunday School.

Who can calculate the influence of Sabbath Schools, either to the world, or to the Church of God? The Sabbath School children returning home with books of the well selected library in their hands, are like so many John the Baptists, carrying the awful and interesting news to all their homes and households, "Repent for the Kingdom of Heaven is at hand."

As Sabbath Schools were unknown in Canada, (and by the *New York Evangelist* unknown in any part of America) on my arrival (1811), their astonishing increase forms one of those green and bright spots in my retrospect of now 60 years of labour and travel in this and various parts of Canada. And now at the advanced age of 83 years, I look forward,—O, I lift the veil!—Heaven opens! and behold I see a great multitude before the throne, that no man can number, clothed in white robes, and palms in their hands, and crowns on their heads, and with harps sweetly strung, they sing the praise of Him who loved them, and washed them in his own blood, and made them Kings and Priests unto God.

I see in a vision of my faith, a world redeemed, for the kingdoms of this world are become the kingdoms of our Lord and Christ for ever!

"Alleluia for the Lord God omnipotent reigneth." Am I to be charged with wildness of thought, that when this multitude unite in their song of praise to him that sits upon the throne, and to the Lamb, the voices of Sunday School children will swell the volume and pathos of their praise, "as the voice of many waters and as the voice of great thunder."

Blessed thought! That God our Redeemer so largely employs Sabbath Schools as one of the important Agents to people his kingdom, and to exalt his praise.

But to return to the question, where was the first Sabbath School in America? And who formed it?

It will be no doubt gratifying to your readers, Mr. Editor, to learn, that you can settle the question now agitating the Christian public in the United States.

The *New York Evangelist* says, "doubtless the honour belongs to the Rev. Burr Baldwin, of Montrose, Pennsylvania. He commenced his school on the 1st Sabbath in May, 1815, in the old Newark Academy, New Jersey. Mr. Baldwin it appears is still living, and in the 80th year of his age.

Now, sir, I came here, sent by the London Missionary Society, and arrived in what is now called Brockville, and preached my first sermon in the old Court House, on the 1st Sabbath in October, 1811, and organized the first Sabbath School in Canada, the last Sabbath in October, 1811, in the old Court House. Adriel Sherwood, Esq., who is still living, was the first Teacher.

The school continues to this day, and is now under the superintendency of D. Wylie, Esq., editor of the *Recorder*, and is in a flourishing state.

From this Sabbath School in Brockville, have gone into the world some of our highest officers in the administration of the Government of Canada. As also several missionaries and ministers of the gospel of our Lord Jesus Christ, some in the Province, some in the United States, and some in foreign countries. Some have gone to their everlasting rest and reward in heaven, and some are still faithfully labouring in the vineyard of the Lord.

I am now within a few months of the 83rd year of my age, and the 63rd year of my Ministry in preaching Christ as the only way

of salvation, and was thirty-seven years Pastor of the first Presbyterian Church in Brockville.

My labours, however, are now pretty nearly closed, and I am only waiting to join my beloved ones in heaven.—*Brockville Recorder*.

PROVINCIAL SABBATH SCHOOLS.—At the recent convention at London, the General Secretary, Rev. W. Millard, presented his Annual Report, from which we gather that it is not the present wish of this Association to organize schools, yet the Association can but rejoice in the fact that in no year has there been a greater number of new schools established. The Wesleyan Methodists report an addition of 117; Episcopalians, 29; Canada Presbyterians, 50. The increase in other branches the Secretary was unable to report. The Canada Sabbath School Union, during the last year, planted 30 schools; the Ontario Sabbath School Union, in six months, 31 schools; Hamilton, 3; showing a very great increase. It cannot be doubted that conventions, both provincial and local, have stimulated the work. Special efforts had been made to obtain statistics of Sabbath Schools in Ontario and Quebec, and 5,000 schedules were mailed to the county secretaries and others, but the result has been a failure. Almost every one reported inability to make a return. It is considered that nothing but personal application to every Sabbath School Superintendent will secure correct statistics. There has been a large correspondence between the General Secretaries and with persons in counties, who could further the cause. Several counties had not yet held conventions. Many counties had, however, and in several cases a number of counties had united. At Ottawa a meeting was held which might have passed for a Provincial Convention, and occupied four days. Much had been done in holding conventions in municipalities, particularly in Oxford, Lincoln and Welland. In Montreal the Canadian Sabbath School Union assumed the work, formerly carried on by the Sabbath School Teachers' Association. Monthly meetings were held in six of the churches. In Toronto the Sabbath School Teachers' institute were occupying most of the evenings of the week, led by the Rev. Alfred Taylor. These meetings are characterized by life, intelligence and instruction. The churches are getting together in Sabbath School work. The clergy and Diocese of Toronto met in November last, and an association was organized. The Sabbath School Association of Canada, sent a deputation consisting of Hon. J. McMurrich, Rev. Septimus Jones, Messrs. D. W. Beadle, J. Gillespie, T. Nixon, and the general Secretary. Dr. Hodgins introduced the deputation, and an address was presented to the association by the general secretary, and the Bishop most graciously replied. Progress is reported in the equipment of Sabbath Schools. In the county of Waterloo, seventeen used object and pictorial illustrations and twelve maps of Bible lands. Mayor Chisholm of Hamilton, says twelve schools in that city use object and pictorial illustrations, and 11 maps of Bible lands, and 7 out of 25 in the city use blackboards. The number of teachers' meetings for the study of lessons had greatly increased; 37 in Toronto are among these, and in Waterloo county 23 out of 25 schools reported teachers' meetings for the study of lessons. Little had been done in building special houses for Sabbath Schools. In cities and large towns alone had this been done. Libraries are general. Many counties report no contributions of money for Sabbath School Association work. Toronto gave \$252 to the funds of the Association. While no correct report could be afforded as supplied by county secretaries, from the most reliable sources, the denominational returns reach nearly 4,000 schools. There is a proportionate number of teachers and scholars. The secretary thankfully acknowledges the valuable assistance of the Hon. John McMurrich, Rev. Messrs. F. H. Marling, J. Wood, T. Griffiths, Joel Briggs, John Scott, H. Christopherson, Septimus Jones, W. C. Allen, Dr. J. George Hodgins, and Messrs. D. McLean, George Harcourt and others. The report was formally received and adopted by the convention.

7. DR. RYERSON'S FIRST LESSONS IN CHRISTIAN MORALS.

FIRST LESSONS IN CHRISTIAN MORALS; for Canadian families and Schools. By Egerton Ryerson, D.D., LL.D., (Toronto, Copp, Clark & Co.)—Is published by authority of the Council of Public Instruction for Ontario, and so will probably find its way into the majority of our Common Schools. It is no easy thing to prepare a book of religious instruction which will be generally acceptable to the different communions represented in the schools of this country, yet the Chief Superintendent in this little book has successfully accomplished this difficult task. He has given a large amount of definite religious teaching which cannot but exercise a wholesome

influence on the pupils who receive instruction therefrom. It is not a book to be committed to memory, but rather one which the pupils may carefully read, and upon the general teaching of which they may be examined. The members of the Church will of course bear in mind that this book does not profess to be a full and complete course of instruction, and will therefore supplement its teaching by requiring their children to commit accurately to memory the Church Catechism, and giving them such explanations of this admirable summary of necessary truth that they will be well grounded in the faith, and able to give to every man a reason of the hope that is in them. If our Church people will thus train their children in those distinctive principles of the Church which have been handed down to us from the earliest days, they will find in these "First Lessons in Christian Morals" useful explanations of many practical duties which are too much forgotten in the present day. And while the children at the public schools are taught those general principles of faith and practice which all acknowledge, at their homes and in the Sunday School the parents, sponsors and teachers will give them further teaching in those divine truths which we hold dear, but which could not be expressed in a work intended for all Christian bodies in common. With this restriction we commend the work to the public, in the assurance that it will be the means of great usefulness to the children of our public schools, and that it will in no small degree meet the demands of those who have advocated religious instruction in our educational institutions.—*Church Herald*, Dec. 21st, 1871.

The object of this little treatise is to supply for our public schools a text-book containing the elements of moral and Christian truth. We have perused it with a good degree of interest and pleasure, and regard it as on the whole a safe and useful hand-book of religious instruction. There can be no doubt that it will supply a want that has long been felt in our Common School system. We rejoice that its venerable author is spared to bring forth fruit like this in a green old age; and we have good hope for the future of our country, if the minds of the rising generation are imbued with the important truths contained in this valuable little work, which gives evidence of wide research, vigorous thought, and judicious arrangement.—*Canadian Baptist*, Jan. 11th, 1872.

"This little book is one of the series of school books authorized by the Council of Public Instruction for the use of schools. It contains a comprehensive but condensed summary of the leading principles of Christian morals, in the form of question and answer, and will be found to contain in an abbreviated form the substance of much larger works. As far as we have found time to examine the definitions are of an unexceptionable character, being based upon the teaching of Holy Scripture."—*Christian Guardian*, 20th Dec. 1871.

"We hail this little book from the pen of Canada's veteran Educator and Divine, as filling an important place in our "Canadian Series of School Books."—We regard that kind of education which cultivates only the intellect, leaving the heart and conscience untouched, as fundamentally defective; and we are glad that a text book has been prepared, which, while carefully avoiding even the appearance of Sectarian teaching, presents the grand obligations of Christian morality in a light both clear and strong. We hope Dr. Ryerson's little manual will be introduced forthwith into all our schools."—*Pure Gold*, Jan. 5th, 1872.

8. THE CLERGY IN THE SCHOOLS.

The appearance of a new school book on "Christian Morals," a notice of which recently appeared in this journal, suggests some considerations as to the position which religion occupies in the Ontario Public School system, and how far it may be practicable to supplement the secular training received by the scholars with the religious instruction which it is so essential to the welfare not only of the Church but of the State that the rising generation should receive.

There is a prevalent impression abroad that the schools are necessarily and purely secular in their teaching, but it is worthy of examination whether the existing system of public instruction does not afford facilities for the inculcation of religious truth—even for the distinctive teachings of the Church. It is our own conviction that this peculiarity of the school system has never received the thoughtful attention of religious men which it deserves, and that there is work for the clergy, for the candidates for orders, for lay readers and catechists, in connexion with the Public Schools of the country, which can be accomplished with the most beneficent results, not only as respects those who are to be taught, but also as respects the experience to be gained by those who are qualifying themselves as teachers in sacred things.

In the first place, we find the Holy Scriptures and Daily Prayers have a recognized place in the Public Schools, and we are informed that recent returns show that in the High Schools 88 out of the 101 have daily prayers, and 60 use the Scriptures, while in the Public Schools, out of a total of 4,566, there are 3,246 in which prayers are said, and 3,097 using the Scriptures. It is further provided that the Ten Commandments be taught to the pupils weekly. Next, we see that the clergy are recognized by the law, and are invited to perform the functions of School Visitors. No clergyman visiting a Public School is an intruder, but is expressly desired to advise and examine, and to exert his influence in order that the tone of the school may be pervaded with a right spirit. He can also do much to induce a due and profitable observance of the above-mentioned religious acts.

But, in addition to this, the principles of Christian Morals are now to form a part of the prescribed course of instruction, with the provision, however, which the law enacts for the protection of the various phases of conscientious conviction, that no child can be obliged to participate in any religious teaching of which his parent may formally signify his disapproval. We are therefore of opinion that the State may in all fairness say to the Church authorities:—"I have done my part. I have provided efficient secular instruction. I have enthroned God's Word in my schools. I have inculcated the duty of prayer to Him that His blessing may accompany my teaching. I have provided suitable times when His Scriptures may be read and worship offered, and even approved forms of prayer are placed in every school. I have provided for the teaching of the moral law, and I have extended an invitation and given opportunities to every clergyman in the land to aid me in the holy work of rearing a race of good citizens. I recognize the need of this help. But I am no longer allowed to be the nursing mother of the Church, and I must throw upon the people and their pastors the responsibility, if there still be a lack of Christian teaching."

It does appear to us that, if the Church holds aloof, and will not come in and do this work in the schools, a great and serious fault will lie at her door. It may be objected that practically difficulties would arise in carrying out the system. If so, let us see what they are and get them removed. Let us see the thing tried. There are already some examples. In Hamilton, the trustees set apart an hour, from three to four, every Friday, when ministers of the various persuasions are provided with facilities for teaching the children of their respective communions. The same is the case in two of the Toronto schools, which are thus served by clergymen of our Church, and the trustees, in acceding to the arrangement in 1863, expressly stated their desire to bring the clergy "into immediate association with the city schools." If this can be accomplished, and the clergyman who meets with his children in his Sunday School were again to meet them in their day school some day in the week, he would be enabled to retain and increase his influence with them, and through them with the parents; and how immensely important is it that the clergyman should be in frequent contact with and be the friend of the children of the parish.

It may be truly said that the clergy are already full of work and overworked, and we gladly bear witness to the zeal and self-denial which characterize their lives; but if we are not mistaken, the regulation which provides for their systematic visitation of the schools, enacts that the clergyman may appear by his "authorized representative." If there be lay readers or catechists, as it is to be hoped there soon will be in all parishes, they might be sent, but the clergyman himself would do well to attend when he can; and whoever goes must remember that his rights extend only to the children of his own communion. In cities and in towns, divided as they are into territorial parishes, there should be no great practical difficulty in apportioning this work among our clergy, whatever may be the case in the country. There is another point worthy of consideration: among the teachers in the Public Schools are 868 members of the Church of England; cannot a goodly number of these be admitted as catechists and enlisted in this good work? It must not be forgotten that our position must be, to a great extent, that of a missionary Church. When a door is open, let us go in. If it requires some gentle pressure, let it be applied; but let us not let slip opportunities of propagating the faith.

We have spoken from a layman's point of view, but may enforce our statements by an appeal to the following decided and weighty words from a "Report, by the Rev. James Fraser, M.A., to the Schools Inquiry Commission." Mr. Fraser, as is of course known to our readers, is the present distinguished Bishop of Manchester:

"I have little doubt that if the clergy as a body were to throw themselves into the system and support it, instead of standing aloof from it as they now mostly do, the Council of Public Instruction would be ready to receive from them any suggestion calculated to make the Minute of 22nd April, 1867, a really effective provision for 'securing that proper commingling of the religious element in

the secular training' of the young, which even the most earnest supporters of the Canadian system seem to feel is the 'one thing' lacking to it. But, as yet, no steps likely to lead to an accommodation beyond the isolated action of one or two individuals, or a single community, have been taken on either side. And thus, while the quarrel turns mainly on points of theory, which might perhaps be adjusted in conference, the great practical interests of religion and Christianity, which all are equally concerned to preserve, are lost sight of, or fall to the ground. For my own part I cannot understand the apparent desire that exists on so many sides to thrust this religious question in the great matter of education into corners of theoretical difficulty which it is easy to construct in a moment by injudicious and unnecessary Minutes, and intemperate, intolerant resolutions. Even if religious instruction were absolutely forbidden, and the whole system of National education so far secularized, I should still consider it part of my duty as a clergyman to visit my parish school, in the hope that even the occasional presence of a minister of the Gospel might impart to the instruction given a tone that else, haply, might not be there. 'They talk of separating religious and secular teaching.' I remember to have heard once said by the earnest Arnold: 'I can't understand them. Give me a lesson to teach in geography and I will make it religious.' If the Canadian system is 'Godless'—an epithet which I myself should be sorry to apply to it—it does not become less so from the fact that it invites, but does not receive, the countenance and co-operation of the clergy."

We have not left much space for one particular aspect of this question to which we would draw especial attention, namely, with respect to its relation to the training of our theological students. We can now merely say that if the students, in the capacity of lay readers, under the direction of the Bishop and the parish clergy, could be sent into the schools, and get to work at the children, their experience thus gained would be of immense after-value. In addition to the positive good they could do at the time, they would become acquainted with methods of teaching and organization which would materially aid them when they are placed in charge of parishes.—*L. in Toronto Church Herald.*

IV. Miscellaneous Educational Information.

1. VALUABLE ART COLLECTION FOR MONTREAL.

Some time ago, says the *Minerve*, the Abbe Chabert, one of the professors in the School of Design in connection with the Board of Arts and Manufactures, went to Paris to see his former professors, men most distinguished in the world of art. He had during his visit an opportunity of meeting the Minister of Public Instruction and Fine Arts, and to speak advantageously of the natural talent of the Canadian for those studies. His Excellence, on being thus informed, gave the Abbe Chabert to understand that he would be happy to place at the disposal of the school some treasures which the French Government possesses in its museums and libraries for instruction in design and sculpture. The Abbe had to return in haste to Montreal, and some days after his arrival he received a letter from the office of the French "Ministry of Public Instruction, of Worship, and the Fine Arts," announcing that the French Government puts at the disposal of the Abbe Chabert for the artists and artisans of Montreal objects of art worth from \$6,000 to \$8,000. The collection comprises models of colossal dimensions, and others of natural proportions, groups and busts, all objects of very great value.

2. DALHOUSIE COLLEGE, HALIFAX.

The Governors of Dalhousie College, Halifax, have issued an appeal for an increase to their annual revenue of \$1,000. They make the following statement respecting the college. "Eight years have now elapsed since it was reconstructed on a basis which was not only unsectarian and thoroughly Provincial in its character, but which at the same time gave it a support in men and money that enabled its Governors to realize the ambition of its founder, and model it, not only in theory but in fact, on the University of Edinburgh. Six Professors in Arts and a Lecturer in Modern Languages were appointed, and a course of instruction provided for, that we could point to as worthy the confidence of the public, and the best study of the flower of our youth. Since that time the college has done its work well. The Professors have not only shed lustre on the institution, but they have always acted as an unit in the common cause. There has never been a jar between them and the Governors. And against not one of the Students in all those years has a single word of reproach been publicly heard. On the contrary, they are becoming more and more appreciated, and receive a

warmer welcome from our citizens every session that they return to their studies. We offer no money inducements to students to come to us, and yet they come in increasing numbers every year, so that this winter about seventy, of whom thirty are Freshmen, are enrolled in the Faculty of Arts, a number unparalleled in the history of colleges in the Maritime Provinces, or in the Upper Provinces either, with the exception of Toronto, and perhaps McGill College, Montreal. This gratifying result has been obtained, although in what is called the "stimulating power" of colleges (i. e. scholarships and other money inducements to students) we are so weak that richer colleges, in other parts of the Dominion, have attracted some of our students. In fact as far as this "stimulating power" goes, we are simply the poorest college in the Dominion and far behind one or two of the colleges in our own Province. It is only right to mention, in connection with this, that when our students go elsewhere, they distinguish themselves; two of them this year taking two scholarships each, of the value of \$205 per annum at McGill College. And at the competition last summer for the Gilchrist scholarship of £100 sterling a year for three years, open to students from every college in British America, the winner was James Gordon McGregor, a Dalhousie College man.

3. NOVA SCOTIA UNIVERSITY EDUCATION.

The establishment of a Nova Scotia University, on the model of the University of London, is just now engaging a great deal of attention in the Maritime Provinces. The plan, which seems to meet with most general favour, is not to found a new institution, but to form Boards of Examiners, working under a Council consisting of members from the several Boards: second, to have a specified number of faculties, for Arts, Medicine, Law, Science, Navigation, Mining, Agriculture, Surveying and Civil and Mechanical Engineering—and endow any teaching body instituting any of these faculties, with a proper staff of instructors and necessary appliances; third, to have a uniform standard of attainment to qualify for graduation, the examination to be made and the degree conferred by the University, not by the institution in which the candidate has pursued the course of study. It is high time that some such scheme were adopted, not only in Nova Scotia but in every Province in the Dominion, for very little value attaches to a degree conferred by a small obscure college, however thorough the instruction given in it.

4. BRITISH EDUCATIONAL ITEMS.

OXFORD.—Convocation at Oxford has passed a statute allowing the "Encoenia" to be held elsewhere than in the Sheldonian Theatre. This severe rebuke of the riotous and ungentelemanly proceedings of late years on the part of the Under-graduates is in itself a stigma so deep that nothing could make it deeper. The natural champions to guard the dignity of the University are obliged to confess that warning is of no avail, and that they dare not trust the young men of Oxford to assist at her most solemn and picturesque celebrations. We will not attempt to add one word to the condemnation thus pronounced. It is deserved—that is enough to say! The disgraceful uproar which the presence neither of ladies nor of learned men could stay, must at all cost be rendered impossible, and hence, if necessary, the impossibility must be secured by the step now taken. But we hope that the Vice-Chancellor may yet find some other resource than to quit the historic building; since in the change there is an element of rude triumph for the offenders which might well be avoided.—*London Telegraph*.

ENGLISH UNIVERSITIES are now thrown open to all, and recently, for the first time since their institution, the degree of Master of Arts has been conferred upon a Roman Catholic and a Jew.

FEMALE STUDENTS.—The senatus of the Edinburgh University have therefore decided to admit female students to examination for a medical degree. The University of Leipzig has also opened its doors to women. Two courses of scientific lectures are to be delivered to ladies this winter in Edinburgh. The one course, on physiology, will be delivered in the University by Professor Hughes Bennett, and the other course, on chemistry, will be given elsewhere by Dr. Stevenson Macadam. All ladies are invited to enter their names as students for either course at a fee of about three guineas.

5. ARCHBISHOP MANNING ON EDUCATION.

Preaching on Sunday, at St. John's Church, Islington, for the schools of the district, Archbishop Manning said: The education

of the people of England is at this time passing through a crisis which, for good or for evil, will determine the future of this country. We are wasting our time in political contests and public dissensions about theories and schemes of second and third-rate importance, while the question which is vital to the well-being of the country is passing beyond our control into the hands of those who are undermining the foundations of our national character. England is a Christian people, and the education of England, in an unbroken tradition from our forefathers, is Christian still.

6. MULLER'S ORPHAN HOUSES.

Most of our readers have heard or read of Muller's Orphan Asylum, on Ashley Down, near Bristol, England. The work has been carried on now for many years and with great success. The peculiarity of its management is that no subscriptions are solicited, but the whole support is derived from donations either of goods or money voluntarily sent in to Mr. Muller. Under this system there has always been a sufficient amount supplied to meet all demands, it being another principle rigidly carried out from the first to take nothing which cannot be paid for in ready cash. For thirty-seven years Mr. Muller has continued at the work on Ashley Down, with ever increasing resources, and on a continually enlarged scale. During that period, FIVE HUNDRED THOUSAND POUNDS STERLING or TWO MILLION AND A HALF of dollars have been placed at his disposal without any one having been solicited for a farthing; and the yearly amount now needed to carry on operations has reached the large sum of forty thousand pounds. With these funds thus committed to Mr. M.'s stewardship, twenty-three thousand children and grown-up persons have been taught in the schools entirely thereby supported, besides tens of thousands in schools partially maintained from the same source. Sixty-four thousand Bibles, eighty-five thousand Testaments, and one hundred thousand smaller portions of the Scriptures have been circulated, as well as thirty-nine millions of tracts and books. More than one hundred missionaries have been more or less supported, while 3,775 orphans have passed through the hands of those in charge, and five large houses have been built and fitted up, at an expense of £115,000, which are capable of accommodating 2,050 orphans.

During the past two years two new orphan houses, capable of accommodating 900 children, have been erected and of course paid for. All the donations sent in are mentioned in each yearly report, and apparently they are from all quarters of the world, New Zealand, Canada, Singapore, China, etc., as well as Britain; from all classes, from countesses to charwomen, and of every sort of valuable, from artificial teeth set in gold to the produce of apple trees and barrels of currants for the orphans' Christmas dinner. Mr. Muller calculates that for 1871 he will require about £46,000, and he is quite confident that he will get that sum and more.

Altogether the history and present position of these orphanages are singularly interesting, and give very conclusive evidence of how much can be accomplished by persevering effort and simple-hearted trustfulness in benevolent and religious effort.—*Globe*.

7. AMERICAN EDUCATIONAL ITEMS.

The United States Commissioner of Education has completed some valuable statistics illustrating the relation of education to crime in the New England States. His statement shows: first, that 80 per cent. of the criminals in these States have no education, or not sufficient to serve their available purposes in life; second, 90 to 90 per cent. of the criminals have never learned any trade, nor are they master of any skilled labour; third, not far from 75 per cent. of the crimes committed are by persons of foreign extraction; fourth, 80 to 90 per cent. of the criminals are intemperate; fifth, 95 per cent. of the juvenile offenders come from idle, ignorant, vicious and drunken homes.

The Washington (D.C.) Board of Education are seriously debating the question of corporal punishment. A series of resolutions introduced at a recent meeting provide: first, that punishment shall only be inflicted after school has been dismissed; secondly, that another teacher shall always be present; thirdly, a report must immediately be sent to the sub-board, stating "the name and age of the pupil, nature of offence, the instrument, extent and severity of the punishment, apparent effect produced, and the name of the witness present."

The *Golden Age* newspaper, referring to the increased call for school books in Brazil since emancipation, says that liberty and the spelling book are "one and inseparable."

An educational agent, sent by the Japanese Government to

San Francisco for the purpose of procuring information regarding the Common School system and the art of printing, left there for home a fortnight since, taking with him English and Russian phrase-books to be used by the Japanese merchants, as both these languages are coming into general use in Japan among the mercantile classes. The leading classes of Japan evidently recognize that their principal commercial relations, in the near future, will be with the two great powers whose influence they have already so beneficially felt.

In the last Anglo-French and Chinese war, the foreign settlement at Canton was destroyed, and the American Minister at Peking demanded indemnity to the Americans for their losses. About \$700,000 were paid. This was found more than sufficient to meet all just claims. There was no proviso to return what was not needed. That surplus, with interest, has now reached the sum of \$400,000. It has been long a question what ought to be done with this money; the general feeling being in favour of a college in Peking. This idea is, after long delays, likely to be realized, as a Bill to effect such a disposition of the fund is about to be introduced into Congress. The object of this College is especially to afford facilities to the Americans for learning Chinese and *vice versa*, letting the Chinese have good opportunities for learning English and other foreign languages.

8 R. C. INDUSTRIAL SCHOOL.

A movement is making in St. Louis to erect and endow an institution in the nature of an industrial school for abandoned Catholic children. The building will cost upwards of \$100,000, of which some \$18,000 has already been raised, and it is the design to locate it in the county outside the city limits, where, in connection with a good farm, agricultural operations can be carried on. The inmates will also be instructed in various trades and occupations.

9. SCIENTIFIC NOTES.

ART INSTRUCTION IN SCOTLAND.—Efforts are being made for the promotion of science and art instruction in Scotland. The local papers report a series of meetings in the large towns, which appear to have been fairly successful. Mr. Buckmaster has forcibly pointed out what is required in the education of working men, and their employers; instead of teaching boys abstractions and metaphysical ideas, as if they were all to be parish ministers, they must be taught things. A knowledge of the laws and properties of matter by which the earth is subjugated to our use, is the proper education of men who have to work on matter. Several local committees have been appointed to co-operate with the Science and Art Department in promoting scientific instruction in Scotland.

LECTURE ON INDUSTRIES AND JOURNALISM.—A series of lectures has been organized by the professors of the University of the City of New York, designed to give the most recent discoveries in science and the latest ideas in philosophy, literature and criticism, in a popular form. The lectures are to be free, and the range of subjects extends from "The Industries of the Romans" to "Journalism."

SCHOOL OF JOURNALISM.—The establishment of a school of journalism as one of the departments of Yale College, has already called forth many comments from the press. The New Haven *Journal and Courier* regards the undertaking as eminently appropriate, in view of the rapid growth of the influence of the press in this country. It points out that many more millions form their opinions from the *dicta* of the press than of the pulpit; that the extension of the means of conveying intelligence by telegraph and otherwise has carried with it an increase of these influences, so that the capacity for good or for mischief of a great journal can hardly be overestimated. Having so recently emerged from the shock of a great conflict, it is scarcely surprising that doctrines subversive of society and even of government find more readily than usual a wide hearing among our countrymen. At such a time the intervention of a conservative element in the thorough education of the rising generation of journalists in social and political ethics, as well as in the outlines of law, history, and literature, should be hailed with satisfaction by all who have at heart the true welfare of the community which these writers must so largely influence.

V. Biographical Sketches.

1. HON. JUDGE AYLWIN.

The deceased judge, who was a native of Quebec, was called to the Bar in 1828. He first entered public life as member for the County of Portneuf in 1841; and in 1842 he became a member of

the Executive Council, as Solicitor-General for Canada East, a post which he held until December 1843; and again in March, 1848, until April, 1848, when on the 26th of that month he was appointed a judge of the Court of Queen's Bench; and no Canadian statesman ever deserved that high honour better than the learned gentleman. He was twice elected to Parliament to represent Portneuf, and three times for the city of Quebec. Being a terse and lucid speaker and a gentleman of great merits and abilities, he was regarded as a great acquisition to his party and was extremely popular with the people. In the Opposition, in whose ranks he was numbered for some years, he became one of the most eloquent and indomitable of its members—a man that never flinched from his purpose but pursued his line of conduct to the last. After the elevation of the departed Judge to the Bench, people had more opportunities to witness the greatness of his abilities and attainments: and his arguments were always conclusive, and excited much admiration. Judge Aylwin bore the reputation of being the best debater in the House of Assembly, a man of infinite adroitness and lawyer-like sagacity, skilled in making the worse appear the better reason, and in exposing the weakness of an adversary's case. His death will be deeply regretted by his judicial brethren, and we feel assured also by the Bar and the people generally of the Province of Quebec.

2. PETER O'RIELLY, ESQ.

The deceased gentleman was born in Westport, County Mayo, Ireland, in 1791, emigrated to Canada in 1832, and settled in Belleville, where he carried on business as a merchant for several years. When the rebellion of 1837 broke out, he was Captain in No. 2 Company of Hastings Militia. His was the first company called out, and he served as Captain the Active Militia for two years under Baron de Rottenburgh. He came to Kingston in 1848, the year after his son Mr. James O'Reilly commenced the practice of the law here. Shortly afterwards he was appointed Clerk of the Crown and of the County Court, which office he filled up to the time of his death. Mr. O'Reilly took a deep interest in politics; he was a warm friend of the late Robert Baldwin, by whom he stood in many a hard fought contest for Constitutional Government.—*Whig*.

3. MRS. DAVIS.

The death of this amiable lady has severed an important link in the past history of the country, and leaves us with scarcely a single individual who could narrate any of the stirring events she remembered so well. She was probably the oldest native Canadian in this part of the country, and had seen it rise from a wilderness trodden only by the red man, to a smiling and fruitful land, dotted over with flourishing towns and villages. Her mother was stolen by Indians when a child, and brought from the United States to Canada, and was restored to her parents after being kept in captivity for several years. Her father was in the Indian service, and died at the post of duty, having received his death wound while fighting in defence of his country. Mrs. Davis was seventeen years old at the time of the last American war, and could give graphic descriptions of the occurrences of that eventful period. She had seen the brave General Brock, and described his appearance with wonderful minuteness. Her accounts of the battles of Queenston, Lundy's Lane and Stoney Creek, as given by her from hearing them from the lips of those who had been eye-witnesses were more vivid, clear and connected, than we read them in the country's annals. She had seen Hamilton grow from a wooded plain into a city of twenty-five thousand inhabitants, and remembered when Toronto had scarcely the old name it once bore. Gradually the old landmarks are being removed, and soon we shall have none "to tell the tales of other days," when the whole of this Western Peninsula was little better than a howling wilderness. Mrs. Davis was the type of a true woman, and among the last of her heroic race who did so much to ennoble the character of her sex, as exemplified in the dangers, difficulties and suffering through which they passed in the perilous times which "tried men's souls." She was a fine specimen of the cheerful, kind and generous-hearted matron one loves to meet with, and her goodness of heart and sweet disposition will be long remembered by all who knew her.—*Hamilton Spectator*.

4. CAPT. JOHN DENCH.

Was born in West Hothly, Surrey, England, in 1830, so that at his demise he was in his 42nd year. When seven years old, in 1837, he came with his father to Canada and settled in Trenton. He started in life as a sailor and sailed as a captain at 15 years.

He sailed his own vessels for some time until the Messrs. Gilmour induced him to take command of the "Trenton." He loved the Bible, and never undertook anything without consulting his Heavenly Father. To this he often attributed his good fortune in sailing, having never had an accident worthy of notice. He was the first to sail a vessel up through Coneseon harbour. In 1867 he gave up sailing, a calling he loved so much, and thought had he continued he would not have been in poor health. In that year he rented the Trenton foundry from Mr. Cooley, after one year he sold out his lease and material to Mr. Shea. In 1869 he and James Marsh opened a hardware store; dissolving this partnership he started in the business in Mr. McCabe's new building. Health failing he sold out this a few months ago and wound up his affairs in life. He served several times as a councillor; was a Grammar School Trustee till he died and a lieutenant in the militia.—*Trenton Courier*.

5. RECENT CANADIAN DEATHS.

When these gentlemen first located themselves in this county, it was an almost trackless forest, and it is by them and such as them, that it has been rendered the happy and comfortable home of thousands. Mr. Scott was from Scotland and was one of the pioneers of the township of Asphodel. The late Emmanuel Mann came to this country from Yorkshire, England, just fifty years ago, and after remaining but a short time in the neighbourhood of Cobourg he made his way to the township of Smith, where he settled, not far from the shores of Chemong Lake. During the long period of his residence there, he has ever been a kind and faithful friend and neighbour, and valuable citizen, who had earned the respect of every one who knew him.

JACOB HILLIER.—Another veteran favoured with life far beyond the allotted span has passed away. Jacob Hillier, who died on Monday, in Ernestown, is said to have been born on the Mohawk Flats, New York, in 1764, thus making 107 years of age. He came to Canada after the revolution, and lived in the township of Ernestown.

J. C. BALL.—The *St. Catharines Times* records the death of Mr. John C. Ball, one of the oldest citizens in that part of Canada. He was the oldest magistrate in the district, and in 1812 commanded a company at the battle of Queenston Heights.

6. SIR RODERICK I. MURCHISON.

This distinguished man was born in Taradale, Scotland, in 1792, and was educated at Durham School and the Military College at Marlow. He served in Spain and Portugal with the 36th Regiment from 1807 to 1816, and afterward became Captain in the 6th Dragoons. About 1822 he was induced by Mrs. Murchison and his friend, Sir Humphrey Davy, to devote himself to those scientific pursuits which have since conferred such merited distinction on his name. In 1831 he began a systematic examination of the older sedimentary deposits in England and Wales, and after seven years labour he succeeded in establishing what he termed the Silurian System, comprehending a succession of strata, previously unknown, which lie below the old red sandstone. In 1830 he gave the result of his researches in the elaborate work entitled "The Silurian System," which was illustrated by five geological maps (one map alone cost £7,500), and 166 plates of fossils, and fine woodcuts. This work at once placed him in the foremost rank of geologists, and gave a strong impulse to geological science. In 1840, Captain Murchison, in company with M. de Verneuil and Count Keyserling, began, at the request of the Czar Nicholas, a geological survey of the Russian Empire. The results of this survey were published in 1845, in two large volumes, profusely illustrated, which were translated into the Russian language by Colonel Obersky. The Czar signified his appreciation of Captain Murchison's services by presenting him with a colossal vase of Siberian aventurine, mounted on a column of porphyry, and by conferring on him, with other marks of distinction, the Grand Cross of the Order of St. Stanislaus. In 1846, upon his return to England, Captain Murchison received the honour of knighthood, and continued to take a leading part in diffusing knowledge regarding the formation of the earth. In 1854 he published a second edition of "Siluria," with a brief sketch of the distribution of gold over the earth. In 1855, he succeeded Sir H. De la Beche in the office of Director-General of the Geological Survey of the British Isles. Sir Roderick served four terms as President of the Geological Society, and has been over twenty years President of the Royal Geographical Society. He contributed upwards of 120 papers to the Transactions of various scientific

bodies, and during a number of years delivered anniversary addresses to the Geographical Society which were valuable reviews of the progress made in geographical and geological knowledge. Sir Roderick was the first who publicly expressed the opinion that gold must exist in Australia. He received numerous honours from scientific bodies, and was a member of all the principal Academies of Europe. An admirable trait in his character was the deep interest he felt in the fate of Dr. Livingstone. He was unwearied in his efforts to learn tidings of his distinguished friend, and to the last had firm confidence in his safety.

VI. Miscellaneous.

1. SABBATH IN THE COUNTRY.

ABlessed Day, which rest to labour brings !
A Sabbath's calm upon the hamlet lies,
As if an angel came on noiseless wings,
And o'er it breathed the quiet of the skies.
No more is heard the clatter of the mill ;
The blacksmith's forge is hushed, the plough is still.

The horse in the green paddock seems to know
He too must rest ; the brook that steals along
Doth surely lave its banks with gentler flow ;
And birds greet heaven with softer, mellow song ;
The very flowers look up, and seem to say
They'll breathe their sweetest on the holy day.

Breaking the stillness, hark ! a solemn sound ;
It passes o'er the hamlet like a wave,
Swings o'er the woods, even the moorland's bound,
And dies in echo by the far sea-cave :
Chime, chime. From yon grey tower the slow winds bear
The church's silvery call to praise and prayer.

Now forth from cottage doors, in trim array,
The rustics come ; old age with thoughtful mien,
And youth with sobered spirits, wend their way
To the old church that stands beyond the green ;
And still the bell its music sprinkles round,
Something of heaven soft murmuring in that sound.

Ye rich and great, who meet to worship God,
Scorn not the poor man's prayer ; for He who rears
High mountain-tops, shapes daisies of the sod,
And simplest cry of lowliest creature hears.
The thunders of the orators arise
Not speedier than poor whispers to the skies.

Dear boon to man ! O priceless blessing given—
This Sabbath to the weary and oppressed.
Converse to hold with God, and think of heaven !
'Mid leaden hours, O golden day of rest !
'Mid discords, music ; to the good, the wise,
A gentle link between us and the skies.

2. SUNDAY IN THE WILDERNESS.

Among the temptations, which beset the backwoods farmer is, to neglect the day of rest. Accustomed in his native land to attend church, and feel the spur of the good opinion of his neighbours, there existed little inclination to desecrate the Sabbath Day. In his new position things are changed and principles tested. To multitudes in the woods, the sound of the church-going bell is music unknown, the voice of the preacher is rarely heard, and the stimulus of example is wanting to prompt in the way of duty. Inattention to dress is often the beginning of lax practice. Hunting and fishing are apt to follow, and ordinary labour eventually be performed by persons who, before emigrating, would have exclaimed, "What ! is thy servant a dog that he should do this ?" The temptation to indifference in the isolation of the bush is great ; but if yielded to, the danger of temporal as well as spiritual damage is certain. All experience goes to prove that in keeping the Sabbath Day holy, there is great reward. One good man, who felt severely the trying situation of bush experience on the Sabbath, persisted in the practice of dressing as he had been accustomed to do, frequently making the remark, "We honour God by honouring the Sabbath." His example of Sabbath Day observance influenced a whole settlement, and he lived to see, not only much of the wilder-

ness become fruitful fields, but a spiritual transformation, in multitudes of his neighbours being turned from darkness to light, and from the bondage of Satan to serve the living God.

Another temptation lurks in the hearts of some to abstain from a religious service conducted by ministers of a different denomination from the one they have been accustomed to attend. Denizens of the forest consult their own best interests by willingness to hear all who proclaim truth, of whatever name. Nor are the differences among Evangelical bodies so great as to justify people in fencing themselves apart, and practically exclaiming each to the other, "I am holier than thou." Let the claimants to the purest faith fix things as they will, there is but one Church, of which every true Christian is a member.—From "*Rustic Jottings from the Bush*," in *New Dominion Monthly* for October.

3. OPINIONS OF GREAT MEN ON THE SABBATH.

"If Sunday had not been observed as a day of rest during the last three centuries, I have not the smallest doubt that we should have been at this moment a poorer and less civilized people than we are."—*Lord Macaulay*.

"There is no religion without worship, and no worship without the Sabbath."—*Count Montalembert*.

"The more faithfully he applied himself to the duties of the Lord's day, the more happy and successful was his business during the week."—*Sir Matthew Hale*.

"A corruption of morals usually follows the profanation of the Sabbath."—*Blackstone*.

"The Sabbath, as a political institution, is of inestimable value, independently of its claims to divine authority."—*Adam Smith*.

"Sunday is a day of account, and a candid account every seventh day is the best preparation for the great day of account."—*Lord Kames*.

"Give to the world one half of the Sunday, and you will find that religion has no strong hold of the other. Pass the morning at church, and the evening, according to your taste or rank, in the cricket field or the opera, and you will soon find thoughts of the evening hazards and bets intrude themselves on the sermon, and the recollections of the popular melody interfere with the Psalms."—*Sir Walter Scott*.

"I feel as if God had, by giving the Sabbath, given fifty-two springs in the year."—*S. T. Coleridge*.

"A Sunday given to the soul is the best of all means of refreshment to the mere intellect."—*Isaac Taylor*.

"Where there is no Christian Sabbath, there is no Christian morality; and without this, free institutions cannot long be sustained."—*Justice McLean*.

"The religious character of an institution so ancient, so sacred, so lawful, and so necessary to the peace, the comfort and the respectability of society, ought alone to be sufficient for its protection; but, that failing, surely the laws of the land, made for its account, ought to be as strictly enforced as the laws for the protection of person and property. If the Sunday laws be neglected or despised, the laws of person and property will soon share their fate, and be equally disregarded."—*Attorney General Bates*.

"We are to account the sanctification of one day in seven a duty which God's immutable law doth exact for ever."—*Richard Hooker*.

"The very life of religion doth much depend upon the solemn observance of the Sabbath; consider, if we should but intermit the keeping of it for one year, what a height of profaneness would ensue, in those that fear not God!"—*Archbishop Leighton*.

"We never, in the whole course of our recollections, met with a Christian friend, who bore upon his character every other evidence of the Spirit's operation, who did not remember the Sabbath day to keep it holy."—*Dr. Chalmers*.

"The Sabbath must be observed as a day of rest. This I do not state as an opinion, but knowing that it has its foundation upon a law in man's nature as fixed as that he must take food or die."—*Willard Parker, M.D.*

"As a day of rest, I view the Sabbath as a day of compensation for the inadequate restorative power of the body under continued labour and excitement. One day in seven, by the bounty of Providence, is thrown in as a day of compensation, to perfect by its repose the animal system."—*John Richard Farre, M.D.*

"So far as my observation extends, those who are in the habit of avoiding worldly cares on the Sabbath are the most remarkable for the perfect performance of their duties during the week. I have a

firm believe that such persons are able to do more work, and do it in a better manner, in six days, than if they worked the whole seven."—*John C. Warren, M.D.*

4. "STAND UP FOR YOUR SUNDAYS."

A WORD FOR OLD AND YOUNG.

Stand up for your Sundays; let nothing have power
To take from God's children their birthright and dower,
The rest-day appointed in Eden's fair bower
Ere sin had yet clouded earth's glad morning hour.

Stand up for your Sundays, the Sabbath of rest,
God's solemn commandment from Sinai's crest,
When awed by the thunder, by darkness oppress,
Their sin and their weakness His people confess.

Stand up for your Sundays; the Saviour arose
In triumph on Sunday, and scattered your foes,
His labours all ended, and borne all His woes,
That you might have pardon and faith's sweet repose.

Stand up for your Sundays; the Spirit came down
On Sunday, and gave it a gladsome renown;
On calm Christian Sabbaths no thunder-clouds frown;
Grace, peace, and rejoicing are Sunday's bright crown.

Stand up for your Sundays; earth's business and care
In six weary work-days have more than their share;
Then comes the blest Sabbath: of labour beware
Which steals from the rest-day to which you are heir.

Stand up for your Sundays; of pleasure take heed
Which seeks from God's worship your footsteps to lead:
Oh, pause Sabbath-breaker, that flower is a weed
Which stings as you pluck it and bears deadly seed.

Stand up for your Sundays, the earnest and sign
Of "rest" that "remaineth" in mansions divine;
With streaks of heaven's glory our Sabbaths now shine,
Some grapes they now yield us from Eschol's rich vine.

Stand up for your Sundays; these happy Lord's-days
On wings as of eagles your souls shall upraise,
While faith's joyful worship and hode's cheering lays
Ring in the grand Sabbath and thunders of praise!

Richard Wilton, M.A.

These verses can be sung to the popular hymn-tune *Hanover*, or old 104th, by the addition of a note in the middle of the first and second lines.

5. A TRIBUTE TO THE QUEEN.

RT. HON. ROBERT LOWE ON DILKE'S SPEECH.

In his speech at Halifax the Chancellor of the Exchequer said:—A member of Parliament has seen fit in the exercise of what he believes to be his duty—to call the attention of a public meeting, held in the north of England, to the manner in which the Government has dealt with the Civil List, to the constitution of the Royal household, and to the conduct of the Queen with reference to the income tax. * * * Of course it is very easy to go before an audience not versed in such matters, and to create cheers and hisses by reading over the old and antiquated names of the officers that have come down to Her Majesty's household from a Monarchy that has lasted a thousand years. * * * I think you will say that this is not the way in which matters of this high importance, touching the compact between the Queen and her people, and touching the conduct of Her Majesty herself, should be treated in this country.

The Queen is no stranger amongst us. She is no novice in government. For four-and-thirty years she has reigned over us. She has maintained during that time a high and stainless character, which is honourable. (Great cheering, which interrupted the speaker. Three cheers were called for the Queen, and heartily given. Groans followed for Sir Charles Dilke, and the audience rising, and led by a choir in the orchestra sang the National Anthem.) The right hon. gentleman continued: I was saying, when you were so kind as to interrupt me—(laughter)—that Her Majesty, during the thirty-four years over which she has occupied the throne, has maintained a high and stainless character which has been an honour to herself and her Court, and to the nation that has the

happiness of living under her auspices. And those who, by virtue of their office, have been brought in contact with the Queen will know that if there is any feature in her character more remarkable than another it is her strict adherence to her word under all circumstances and under all conditions. Of her it may be truly said—

"Her memory is her honest thought,
And simple truth her only skill."

In all the time that this great Sovereign has reigned over us no one has ever tried or ventured for a moment to point out that she has stepped one hair's breadth beyond the prerogative the law has assigned to her, or done anything in any way to violate the letter of spirit of the Constitution. No one can ever allege that she has ever made a promise that she did not fulfil. No one can even say anything ever dropped from her lips or from her pen that was not absolutely true, without the slightest intention in the world to mislead, deceive, or to conceal. (Hear, hear.) It is because I feel and know this so thoroughly, and all those who have the honour of anything to do with the affairs of the State know it too—that I really feel almost ashamed to say what I am going to say with regard to the statement that this promise to pay income-tax has not been fulfilled. I am not going into details, but I state to you, in the person from whom such statements would come with the proper official authority, that the sums which Her Majesty has contributed to the income-tax since 1842, when the income-tax was imposed, are counted in hundreds of thousands. (Cheers.) I have selected that single instance, and shall deal no further with the matter, but leave it to your conviction. If it should be the decision of the Honourable Gentleman in question to bring the matter before the House of Commons I shall be most happy to give the fullest explanation, and I do not doubt that the country will be satisfied in this as in all other things relating to Her Majesty and her office—the high, honourable office which she holds over us. Her Majesty has been true to herself, and a worthy representative of the feeling of the honest and truth-speaking people of England. (Cheers.) As for the rest of this matter, I shall certainly not discuss it. I should think it degrading to myself—I should think it insulting to you—if I were to be led, for one moment even, into any discussion on the relative merits of a Monarchy or Republic. Politics are not speculative or metaphysical, but a practical and inductive science. The test of what is politically right is what has answered and worked well. (Hear, hear.) The English Monarchy, beginning under William the Conqueror with the sternest and most cruel tyranny, has, in the course of eight hundred years, advanced until under it we have obtained in this happy country more of order connected with liberty, and more of ancient tradition connected with the springing power of boundless improvement than has been granted to any people on the earth. I think I do not misread the feelings of my countrymen when I say that they will not be disposed to consider for a moment the propriety of changing an institution under which they have derived so many and so great benefits.

6. QUEEN VICTORIA AND HER PEOPLE.

Now that His Royal Highness the Prince of Wales is steadily recovering—the latest telegram stating that he continues to gain strength and that the swelling above the hip subsides slowly—Her Majesty has, in a letter to the London papers, the substance of which is telegraphed, promptly and gracefully expressed her "deep sense of the touching sympathy exhibited for her family by the whole nation during the illness of her dear son." Her Majesty further states that a deep and ineffaceable impression has been made upon her heart by the general joy manifested at the improvement of His Royal Highness' health. This painful experience—happily not going down to the depths of desolation, with its wide awakening of national sympathy—reminds Her Majesty of that inexpressibly sad occasion when death removed "the mainstay of her life—the best, wisest and kindest husband that ever lived." Her Majesty expresses deep affection for and gratitude to the Princess of Wales, who has been most devoted in the attendance in the sick room, and is devoutly thankful for the recovery of the Heir Apparent.

7. A PLEASING ROYAL PICTURE.

The *Berlin Cross Gazette* takes the following account of the life of Her Royal Highness the Crown Princess at Hamburg, from a private letter: Our Crown Princess has now been here four weeks. Her sister, Princess Alice of Darmstadt, often comes with her children to visit her. At such times the sight of the family excursions from the old castle is very pleasant, as there are then eleven children together; and they are all very lively. Several of them lately

rode out on donkeys, and two pushed a chaise from behind, which was drawn by two small horses, and in which some of the children were also seated. The Crown Princess is exceeding simple in her tastes and manners. She herself carries refreshments in a basket to the patients in the Lazareth. She has had everything there arranged in the most excellent manner. She has had the beds covered with white sheets and coverlets, and neat curtains put up. By her orders, flowers were placed in the rooms, and a concert was given by the band of the Kurhaus, on which occasion the wounded were carried in their beds into the court of the barracks. The Crown Princess, beyond all doubt, possesses a great deal of energy, and she is fond of simplicity and good order. The fire guard here desired to place a guard of honour at the castle, but she refused the honour with thanks. She arrived with her children in a carriage. No one recognized or saluted her; a splendid entrance had been expected, but she was past. She has generally one of her children on her lap when she drives out. It is no wonder she has gained all hearts, especially those of the mothers.

8. CANADA'S SUBSCRIPTION FOR THE CHICAGO SUFFERERS.

As far as heard, from the subscriptions from Canada, towards the relief of Chicago's sufferers, are as follows:

Montreal.....	\$33,000
Toronto.....	15,000
Hamilton.....	7,000
London.....	4,000
Kingston.....	2,000
Brantford.....	1,000
Belleville.....	500
Miscellaneous.....	7,500
Total.....	\$70,000

9. TABLE OF FORMER GREAT FIRES.

Norfolk, Va., destroyed by fire and the cannon balls of the British. Property to the amount of \$1,500,000 destroyed. January 1, 1776.
City of New York, soon after passing into possession of the British; 500 buildings consumed. September 20, 21, 1776.
Theatre at Richmond, Va. The Governor of the State and a large number of the leading inhabitants perished. December 28, 1811.
City of New York; 530 buildings destroyed; loss \$20,000,000. December 16, 1835.
Washington City. General Post Office and Patent Office, with over ten thousand valuable models, drawings, &c., destroyed. December 15, 1836.
Philadelphia. Fifty-two buildings destroyed. Loss, \$500,000. October 4, 1839.
Quebec, Canada; 1,500 buildings and many lives destroyed. May 28, 1845.
Quebec, Canada; 1,300 buildings destroyed. June 28, 1845.
City of New York; 300 buildings destroyed; loss, \$6,000,000. June 20, 1845.
St. John's, N. F., nearly destroyed; 6,000 people made homeless. June 12, 1846.
Quebec, Canada; Theatre Royal; 47 persons burned to death. June 14, 1846.
Nantucket; 300 buildings and other property destroyed; value, \$800,000. July 13, 1846.
At Albany; 600 buildings, steamboats, piers, &c., destroyed; loss, \$3,000,000. August 17, 1848.
Brooklyn; 300 buildings destroyed. September 9, 1848.
At St. Louis; 15 blocks of houses and 23 steamboats; loss estimated at \$3,000,000. May 17, 1849.
Fredericton, N. B.; about 300 buildings destroyed. November 11, 1850.
Nevada, Cal.; 200 buildings destroyed; loss, \$1,800,000. March 12, 1851.
At Stockton, Cal.; loss, \$1,500,000. May 14, 1851.
Concord, N. H.; greater part of the business portion of the town destroyed. August 24, 1851.
Congressional Library, at Washington; 35,000 volumes, with works of art, destroyed. December 24, 1851.
At Montreal, Canada; 1,200 houses destroyed; loss, \$5,000,000. July 8, 1852.
Harper Brothers' establishment, in New York; loss over \$1,000,000. December 10, 1853.

Metropolitan Hall and Lafarge House, in this city. January 7, 1854.

At Jersey City, thirty factories and houses destroyed. July 30, 1854.

More than 100 houses and factories in Troy, N. Y.; on the same day a large part of Milwaukee, Wis., destroyed. August 25, 1854.

At Syracuse, N. Y., about 100 buildings destroyed; loss, \$1,000,000. November 8, 1856.

New York Crystal Palace destroyed, October 5, 1858.

City of Charleston, S. C., almost destroyed, February, 17, 1865.

At Quebec, Canada; 2,500 houses destroyed; loss, \$2,300,000.

VII. Educational Intelligence.

—GRAND DUKE ALEXIS.—While in Toronto the Grand Duke, accompanied by Lieut.-Governor Howland, proceeded from the Queen's Hotel to visit the places of interest in the city, among which were the University and the Normal School, where he was received by the Rev. Dr. Byerson; from thence he proceeded to Osgoode Hall.

—TRINITY COLLEGE UNIVERSITY.—At the recent convocation the following degrees were conferred B. A.:—John Austin Worrell, John Hamilton, Arthur Jarvis, Thomas Armstrong, John Warren Burnham, Charles Benson Dundas, John Edgar Reginald Gourlay, Rev. Wm. Massey, Llewellyn Geo. Morgan, Richard Barrington Nevitt, Thomas William Read, James White, Robert Wm. Hillary, James Hackett, J. M. Hart, A. L. McLaren, Henry Moorhouse, and James A. Robertson. M. A.:—Rev. Ephraim Horace Mussen, Rev. Alexander Shaw. M. D.:—Henry Orton. D. C. L.:—The Right Rev. the Lord Bishop of Huron, and the Venerable the Archdeacon of Assiniboine. Prizemen.—Robert Gregory Cox—Prince of Wales' Prize for 1870. 1st class in classical and mathematical honours, and the Chancellor's additional prize for double first prize. Pulteney Ford Ogden—Hamilton Memorial prize for 1871, and the Bishop's prize in divinity for 1871. John Austin Worrell—Classical prize in 3rd year, 1871, and Mathematical prize in 3rd year, 1871, and Prince of Wales' prize for 1st class in classics, 1871. William Cartwright Allen—Classical prize in 2nd year, 1871. John Hamilton—Prize in French, 1871. Reginald Gourlay—Prize for English Verse, 1871. A prize poem, on "The Isthmus of Suez" was recited by Mr. J. E. R. Gourlay. Admitted to the Divinity Class:—Robert Doherty, John Woodburn, Joseph Fennell, Percival Lawson Spencer. The following were admitted to Matriculation:—Francis Stewart Checkley, Charles Edmund Sills, Charles Cortes Fessenden, Sutherland Macklem, Richard William Garrett, Joseph Fennell, John Alexander Hannan, Herbert Bethune Paton, Percival Lawson Spencer, Morse Stewart, William H. Young. After a speech by the Chancellor touching the flourishing condition of the University, the proceedings were terminated by the Benediction, pronounced by the Bishop.

—LINDSAY SEPARATE SCHOOL.—A gymnasium has been built in connection with the Lindsay Separate School—104 feet long by 38 feet wide. Bishop Horan, of Kingston, visited it recently and expressed himself much pleased at the attention thus paid to physical training.

—SOUTH HASTINGS TEACHERS' ASSOCIATION.—The regular meeting of the South Hastings Teachers' Association was held in Belleville. The President, Mr. John Johnston, Inspector, occupied the Chair. After the usual routine of business was disposed of a discussion was introduced by Mr. Macoun, on the definition of the word "Teaching," and under this head the different methods of teaching were discussed, the general opinion being that all teaching, as far as practicable, should be by induction. The President, Mr. McGann, Irwin and others, taking part in the discussion. The President introduced the further consideration of the Limit Table, showing its superiority over the old Limit Table, and how admirably it was adapted to meet the present requirements. The Inspector also stated that as to all the schools he had visited since vacation, he had invariably classified them according to it, and that in those schools in which it had been introduced, it worked admirably; and that he hoped all the schools of South Hastings would soon be working by it.

A discussion on its merits followed, when it was moved by Mr. Macoun, seconded by Mr. Osborne, that "We, the Teachers of South Hastings, in Convention assembled, do hereby express our high approval of the 'Limit Table,' for the use and benefit of the Public Schools of the Province, as conducive to the best interests of our System of Education, and productive of beneficial advantages to the Teacher, in the faithful discharge of his onerous duties." Carried. Mr. Sprague, of Smithville, explained his method of teaching the first part of the first book. This method was objected to by Mr. McGann and Mr. Huntly, upon which an animated and lengthened discussion of the merits of the different systems of teaching followed, in which nearly all the teachers present took part, proving most conclusively the superiority of the new system (of teaching the word forms first and the letters at the head of each lesson afterwards,) to the old system of teaching the whole alphabet first. All those who had tried both stated decidedly that the new was one hundred per cent better than the old system. The President then proceeded to explain his method of teaching young children the rudiments of Grammar, and plainly showing how to make what is generally considered an irksome task, a pleasant exercise. In answer to the question, what Grammar was required, he replied Davie's Smaller Grammar; as the Larger Grammar was not intended for use in the Public Schools. The meeting was in every respect a most interesting, instructive, and pleasing one. The subjects for the next meeting are: "The difficulties of the Infinite Mood," to be opened by Mr. Goman. Mr. Squier is to show his method of teaching Object Lessons. "To what extent shall the Teacher assist the pupil?"—Mr. Macoun. "Grammar to advanced classes."—Mr. McGann. "The Rudiments of Arithmetic to young children."—Mr. Osborne.

—UNION TEACHERS' ASSOCIATION.—The quarterly meeting of this Association took place in Galt on the 2nd Dec., 1871. Mr. J. Suddaby elected President; Mr. S. L. McRae, Vice-President; Mr. H. Dickenson, Secretary and Treasurer. Moved by Mr. Fullerton, seconded by Mr. Munro, "That the retiring officers, Messrs. Grey, Rodgers and Dickenson, receive the thanks of the Association for their services during the past year." Carried. Moved by Mr. Dickenson, seconded by Mr. McWilliam, "That Messrs. Grey, Suddaby, McRae and the mover be appointed as Committee to take into consideration the advisability of holding a conversazione for the purpose of raising funds necessary for the getting up of a Competitive Examination, open to the pupils of teachers who are members of this Association." Carried. Mr. McWilliam then gave his method of teaching the simple rules of arithmetic. The remaining exercises were allowed to stand over till next meeting. Business for next meeting: "A Lesson" by Mr. Beattie. Subject—Phonetic Method of teaching Reading. "An Essay" by Mr. Suddaby. Subject optional. "A Reading" by Mr. Dickenson. "A Lesson on Music" by Mr. McRae.

VIII. Departmental Notices.

THE NEW ACT AND SEPARATE SCHOOLS.

In reply to a question frequently asked, we desire to say that the new School Act and Regulations do *not* in any way affect the Separate Schools. It was not intended to affect them when the Act was passed; and it would be unjust to the supporters of these Schools thus to legislate for them indirectly, and without their knowledge. The Inspectors will, therefore, be particular not to apply the Act, or any of the new Regulations to Separate Schools.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the annual reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports.

The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report at the end of the year. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

COLLEGIATE INSTITUTES AND HIGH SCHOOLS.

His Excellency the Lieut.-Governor has been pleased to confer upon the undermentioned High Schools, the name and privileges of Collegiate Institutes, in accordance with the provisions of the School Law of Ontario, viz:—

1. Galt High School, 12 Masters and an average attendance of 120 boys, in classics.
2. Hamilton High School, 4 Masters and an average attendance of 74 boys, in classics.
3. Peterboro' High School, 4 Masters and an average attendance of 73 boys, in classics.
4. Cobourg High School, 4 Masters and an average attendance of 65 boys, in classics.
5. Kingston High School, 4 Masters and an average attendance of 63 boys, in classics.
6. St. Catharines High School, 4 Masters and an average attendance of 62 boys, in classics.

His Excellency has been pleased to authorize the establishment of the following new High Schools,—suitable accommodation and the employment of two Masters having been guaranteed, viz:—

- Parkhill, in the County of Middlesex.
Campbellford, in the County of Northumberland.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and freely consent to employ *two* masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High Schools in Ontario. When the application of the new principle of "payment by results," (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

TEACHERS SUPERANNUATION FUND MANAGEMENT.

As most contradictory and erroneous views are put forth by certain Teachers as to the management of the Superannuation Fund, we desire to say that under our system of Responsible Government, the management of such a Provincial fund by private persons would be a violation of a sound principle of public policy, and could never be permitted. The moneys for the Superannuation Fund received through the Inspectors (as it is well known) are at once transferred to the Treasury Department, into the custody of a responsible Minister of the Crown, to be managed by him. If he fails in his duty the remedy is simple; but no proof has been offered to show that he, or any other person having to do with the fund, has thus failed, and yet a good deal has been thoughtlessly said and reiterated in favour of the pernicious system of private control, to which we have referred.

RECEIPTS BY THE PROVINCIAL TREASURER, FROM EDUCATION DEPARTMENT.

For the year ended 31st December, 1871. (From the Public Accounts.)

SERVICE.	PARTICULARS.	\$ cts.	\$ cts.
Normal and Model Schools.	Fees, Pupils..... Interest on \$1,100 Dom. Stock, to 30 Sept., '71.	4,924.00 63.00	
Depository	Sales of Maps, Apparatus, Prizes and Libraries during year		4,980.00
Superann'd Teachers.	Subscriptions during year	5,309.00	
	Interest on \$2,000 Dom. Stock, to 30 Sept., '71.	120.00	
Journal Education.	Subscriptions and advertisements		5,429.00
Museum	Sale of Photographs		180.56
Contingencies Ed. O.	Postage stamps		7.94
			72.50
	Total		35,450.05

W. R. HARRIS, Accountant.
Treasury Department, Ontario,
Toronto, December 30th, 1871.

A. MACKENZIE,
Treasurer.

FIRST LESSONS IN AGRICULTURE.

To the Editor of the Journal of Education.

SIR,—A scurrilous article having appeared in the *Globe* newspaper of this city, on "First Lessons in Agriculture," by the Rev. Dr. Ryerson, attacking, among other matters, the orthography of parts of the work, we at once sent an explanation to the Editor (which he refused to insert,) to the effect that the author was not in any way responsible for any errors in the book. In the original MS. the words are all spelt as the *Globe* writer states that they should have been, (except some few words which the latter, in his ignorance of scientific terms, spells wrongly). The proof was not read by Dr. Ryerson, as he was absent during the time the book was being printed—but by a gentleman of great scientific ability, well known throughout the Province; and for any changes in the orthography of scientific terms he is responsible. With regard to other typographical errors, we may state that they only occur in the *Second* Edition, and arose from the fact that the Electrotpe plates which we had prepared for that Edition, broke up when placed on the press, involving the necessity of resetting many pages, and in our anxiety to have the book ready in time for the schools, these proofs were not so carefully read by us as they ought to have been, this we very much regret; but the edition was small and is nearly exhausted. We are having the whole work carefully read, and if the utmost vigilance can secure it, we promise Teachers and Students that the third Edition shall be faultless.

Your obedient servants,

COPP, CLARK & CO.

Toronto, January, 1872.

IX. Advertisements.

NOW READY:

First Lessons in Christian Morals, and
First Lessons in Agriculture.
BY REV. E. RYERSON, LL.D.

IN THE PRESS:

LECTURES ON THE SCHOOL LAW AND REGULATIONS.

Relating to Rural School Trustees; Selection of School Sites; Public School Meetings; Masters, Teachers, &c. Delivered to Normal School Students, by J. George Hodgins, Esq., LL.D., Barrister-at-Law. Price, 50 cents; by post, 55 cents.

COPP, CLARK & CO.,

Toronto, Jan., 1872.

Publishers, 17 & 19 King St. East.

IMPORTANT TO TEACHERS AND SCHOOL TRUSTEES!

Ruttans New Ventilating Stoves,

RECOMMENDED BY TORONTO BOARD OF SCHOOL TRUSTEES, who certify that they consume but 2½ Cords of wood a year. They change all the air in a room every four minutes.

Apply to

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Yonge Street, Toronto.

p'd.

JOURNAL OF



EDUCATION,

Province of

Ontario.

VOL. XXV.

TORONTO, FEBRUARY, 1872.

No. 2.

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FREE PUBLIC SCHOOL LIBRARIES IN ONTARIO.

We present in this number of the *Journal* an annual statement of the operations of the Educational Depository up to the end of the year 1871.

From the accompanying tables, it will be seen that the number and value of the books sent out for libraries and prizes, as also the maps and apparatus, have been quite large. During the months of January and February of this year, too, the orders have been unprecedentedly large, especially for maps and apparatus. Indeed, it has been almost impossible to supply the demand—no less than 1,370 maps and 246 charts—total, 1,616 (independently of books and apparatus) have been ordered and sent out up to 15th March. The receipts of the Department (which have been sent in to the Provincial Treasury) have also been very large, as compared with the receipts of the corresponding months of last year, being as follows :—

	1870	1871	1872
January	\$1,587	\$2,260	\$3,742
February	1,660	2,039	3,233

These facts are most gratifying, and show the continued and growing popularity and importance of this branch of our educational operations.

TABLE shewing the Number and Classification of Public Library and Prize Books sent out from the Depository of the Ontario Education Department from 1853 to 1871, inclusive.

[illegible]

Grand Total, Library and Prize Books, despatched up to the 31st December, 1871	827401
--	--------

TABLE shewing the Value of Articles sent out from the Education Depository during the years 1851 to 1871, inclusive.

YEAR.	Articles on which the 100 per cent. has been apportioned from the Legislative Grant.		Articles sold at catalogue prices without any apportionment from the Legislative Grant.	Total value of Library, Prize and School Books, Maps and Apparatus despatched.
	Public School Library Books.	Maps, Apparatus and Prize Books.		
	Dollars.	Dollars.	Dollars.	Dollars.
1851.			1414	1414
1852.			2981	2981
1853.			4233	4233
1854.	51376		5514	56890
1855.	9947	4655	4389	18991
1856.	7205	9320	5726	22251
1857.	16200	18118	6452	40770
1858.	3982	11810	6972	22764
1859.	5805	11905	6679	24389
1860.	5289	16832	5416	27537
1861.	4084	16251	4894	25229
1862.	3273	16194	4844	24311
1863.	4022	15887	3461	23370
1864.	1931	17260	4454	23645
1865.	2400	20224	3818	26442
1866.	4375	27114	4172	35661
1867.	3404	28270	7419	39093
1868.	4420	25923	4793	35136
1869.	4655	24475	5678	34808
1870.	3396	28810	6175	38381
1871.	3300	29882	8191	41373

I. The Educational Depository.

1. THE EDUCATIONAL DEPOSITORY.

As Adam, Stevenson, & Co., booksellers, in this city, have at various times, through the "Canada Bookseller," sought to misrepresent the purpose and objects of the Education Depository, we direct the attention of the friends of the Depository to the following facts and inferences which have already been discussed in the JOURNAL OF EDUCATION for May, 1870. It is not necessary to do more in this place to summarize the purport of the JOURNAL article at that time. In the May JOURNAL we have demonstrated most of the following facts and inferences:—

1.—City and Town Boards of Trustees authorized to establish a Depository for their Schools.

That the law authorizes (and provides facilities for) each Board of School Trustees, in Cities, Towns, &c., to establish and maintain what is equivalent to a Depository, or School *dépôt*, for the supply of its schools with approved books, stationery, &c., of all kinds, and authorizes the charge of a fee for its maintenance.

2.—Educational Depository, a City and Town one, on a large scale.

That the Depository connected with the Education Department, is nothing more than such a City or Town School *dépôt* on a large scale, and under Provincial control, out of which to supply all the Schools of the Province.

3.—What is right and proper for a City and Town Board to do is not wrong for the Education Department to do.

That what is right and proper for a City and Town Board of Trustees to do, (under the sanction of the Legislature) cannot be wrong for the Central Depository of the Education Department to do on a large scale, under the same sanction.

4.—Educational Depository exists solely for the schools.

That the Educational Depository exists solely for, and in the interest of the schools alone, and that it has never supplied private parties with books, or interfered with private trade in any way.

5.—Principle of the Depository acted upon by the Dominion and Provincial Governments, &c.

That the principle of the Depository is recognized and acted upon without question by the Imperial, Dominion and Provincial Governments, in their Stationery Offices, Queen's Printers, Post Offices, Army and Navy supply, etc.

6.—To abandon the Depository principle would be to create two evils.

That to abandon the principle of the Educational Depository would be either to confer a monopoly of high prices upon a few individual booksellers, or to throw wide open the door to the introduction of all kinds of literature, the bad and pernicious as well as the good, as we shall demonstrate by incontrovertible testimony and examples. (See next page.)

7.—Examples and warnings of others not to be disregarded.

That the examples in our own country, and the warning of our American neighbours (which we quote below) should not be disregarded by us, but should be carefully pondered.

8.—Not one of our 5,000 Schools has asked for change in Depository system.

That after an experience of twenty years, not one of the nearly 5,000 school corporations have asked for any change, in the Depository system, but numbers of them have regarded the Depository as a great boon, and have so expressed themselves. (See page 20.)

9.—None but interested parties wish to destroy the Depository.

That none but interested parties have ever petitioned the House of Assembly against the Depository; that even they have not done so for years, and that during the last session several petitions were sent in asking the House to authorize the Department to supply poor schools with maps and apparatus, as part of the grant made to them.

10.—The gift of books and maps identical in principle with the gift of money, &c.

That if the Government, under the authority of the Legislature, has a right to give money and provide trained teachers for the schools, it has also a right to give books and maps to them, and that is not a shadow of difference in the principle of the one gift and the other.

11.—Great success of the Depository for 20 years.

That the Depository has now been in successful operation for twenty years, has sent out (or, at the end of this year will have sent out) nearly 900,000 volumes of approved books, for libraries and other reading, and (including maps and apparatus) articles, during the same time, to the value of nearly \$600,000.

12.—No article costs a school more than half a reduced price.

That all the books and maps for the schools are purchased from wholesale booksellers and others, at the lowest wholesale rates, and are sold (on an average) at currency for sterling rates, or about 25 per cent. less than the usual current retail prices, and that no school has to pay more than one-half of this reduced rate.

13.—Development of Home Trade by the Depository.

That the Depository has developed new branches of home manufacture and industry in Ontario, and has largely increased the demand for books, of which the booksellers have reaped the benefit.

14.—Alleged interference with book trade disproved.

That the alleged interference of the Depository with the book trade is the reverse of truth, as the "Trade Returns" will show. It has, on the contrary, largely developed this trade, by sending books into every corner of the land. The value of books (not maps and apparatus) imported into the Province of Ontario, in 1850, was \$141,700, and, in 1870, \$351,000, while the average import of books by the Department has not been five per cent. of this latter sum.

15.—Entire text-book trade in the hands of booksellers.

That the entire text-book trade is in the hands of the booksellers, as the books are all named and known, and no departure from the list can take place; but that with the large and constant influx of new books no such supervision could take place over the supply by booksellers of prizes and library books.

16.—Legislative aid to Depository develops local effort.

That, of the \$398,408 granted by the Legislature to the Depository since 1851, \$153,692 have been returned to the Provincial Treasury, as the proceeds and evidence of local effort to supply the schools with books, maps and apparatus.

17.—Depository has fully paid its own expenses.

That the depository has fully paid its own way, and has not cost the Province one penny for its management for twenty years.

2. PRACTICE AND OPINIONS OF AMERICAN EDUCATIONISTS IN REGARD TO A DEPOSITORY.

We make the following extracts from the *Journal* for May, 1870. The Commissioner of Public Schools, in the State of Rhode Island, in discussing the whole question of school libraries, thus remarks:—

"The plan of providing such district school libraries, adopted by the Parliament of Canada West, is undoubtedly the wisest that has yet been acted upon. It is in short this:—The Parliament by vote appropriated a specific sum to purchase a suitable number of books, charts and articles of apparatus for schools and school libraries. This sum was expended under the direction of the Superintendent of Public Education, and a large Depository of excellent and select books for the reading of youth and older persons was made at the Office of Education. Whenever any school district or municipality

wishes to form a library, it may send to the office of the General Superintendent a sum not less than five dollars, and the Superintendent adds one hundred per cent. to the sum, and returns, at cost price, such books to the district as may, by a committee or otherwise, have been selected from the printed catalogue of the Depository. Thus the books that go into libraries are books that have been well examined, and contain nothing that is frivolous, or that could poison the morals of those who read them; the libraries purchase them at the wholesale price, and, of course, can obtain a much larger amount of reading matter for their money than as though they had each made the purchase direct from the book-sellers for themselves, and at the same time they are stimulated to do something for themselves as well as to ask that something may be done for them. It is believed that some such plan might be carried into effect in our own State greatly to the profit of the whole community."

In regard to the State of New York, the Chief Superintendent (Dr. Ryerson) in his *Special Report* to the Legislature in 1858, says:—

"The unsatisfactory working and declining state of the public school library system in the State of New York, as detailed in a preceding page, is a sufficient illustration of the fruits of what is demanded by the bookselling assailants of our public library system, in a country where the private book trade is much more extended in its supplies and operations than in Upper Canada."

"Whether, therefore, our system of providing public libraries, as well as maps, globes, and other school apparatus, be considered in regard to the higher or lower grounds above stated, the conclusion is that which was expressed by the President of the American Association for the Advancement of Education at a late anniversary of that noble society, as quoted by the Earl of Elgin in a speech at Glasgow, after his return from Canada. The report says:—'The President made some remarks on the difficulty in the United States of procuring proper libraries for schools, keeping out bad books and procuring good ones at reasonable rates, and he strongly recommended the system adopted by the Education Department at Toronto, Canada West.'"

Examples of the practice in other States, and in Nova Scotia, Australia, etc., (which are in the main similar to that in our own Province), will be found on pages 40 and 43 of the *Special Report* just quoted, and pages 100 and 101 of the *Journal of Education* for June, 1867.

3. AMERICAN REASONS FOR PREFERRING OUR DEPOSITORY SYSTEM TO LEAVING THE MATTER IN THE HANDS OF "THE TRADE."

Previously to quoting the reasons and warnings of the American Educationists, we desire to refer briefly to an incident of the Perth library case (which case gave rise to recent discussions on this subject). The Board of Trustees at Perth had ordered several of Lever's novels, which the Council of Public Instruction and the Department had refused to sanction for introduction into our schools. The *Perth Courier* and *Toronto Globe** both assailed the Department for refusing to send the books asked for by the Perth Trustees, on the ground that they were quite as competent as the Department to decide what kind of books should be placed in the school library. To this, Dr. Ryerson replied as follows:—

"Among the most serious charges made by one of the principal complaining parties is this:—That the Department has refused to supply them with Lever's novels, including stories of such rollicking drunken heroes as 'Harry Lorrequer,' 'Charles O'Malley,' 'Jack Hinton,' &c. The Council of Public Instruction, believing that there are too many of such characters in the country already, without increasing their number, refused to sanction the spending of public money to buy and circulate books to eulogize and applaud them, and to place such books in the hands of our youth."

As to the evils, even in our own Province, of placing works of a doubtful kind in the hands of youth, we refer to the painful cases on this subject mentioned in the *Journal of Education* for April, 1861, and the further illustrative papers on the subject in the *Journal* for November, 1865.

The *Globe* of the 30th March says:—

"The complaining parties have dared to question the propriety of that *index librorum prohibitorum* which this Canadian Pope has instituted. Some rebellious spirit has asked for Lever's novels, and the soul of Dr. Ryerson revolts at the idea of supplying stories of such 'rollicking, drunken heroes' as Harry Lorrequer, Charles O'Malley and Jack Hinton, * * * * The absurdity of this literary dictatorship is too gross to escape ridicule, and the sooner it is done away with the better."

And now what is this "literary dictatorship," thus denounced by the *Globe*? Why, it is that "The Council of Public Instruction

regards it as imperative that no work of a licentious, vicious or immoral tendency, and no works hostile to the Christian religion should be admitted into the libraries."

CAUTIONS AND WARNINGS OF AMERICAN EDUCATIONISTS.

We have already cited the opinion of two prominent American authorities in favour of the Depository system adopted in this Province. In the *Journal of Education* for June, 1867, will be regulations similar in effect to those in this Province, which have been adopted in Michigan, Maryland, Nova Scotia, and Australia.

We will now quote the following extracts from the Report of the Superintendent of Public Instruction for the State of Michigan on this subject. He says (after speaking of some other difficulties in carrying out their library system):—

"But a worse evil grew up in the systematic plans of peddlers to palm upon the libraries a mass of cheap, trashy, and often pernicious literature. One or two wealthy booksellers kept their peddling agents traversing the State, and many are the tricks by which they boasted that they outwitted the Inspectors. A few libraries were well selected and well kept; but so valueless for the public good, and especially for the education of the young, had the great majority become, that all intelligent friends of education desired a change." See an illustration of the existence of this pernicious system of peddling in our Province, given in the *Globe's Book Trade Review* for 1862, page 2.

These "wealthy" and other "booksellers" here mentioned were determined, however, not to permit their "trade" to be interfered by State authority, and their next course of action in the interests of "the trade" may be best gathered from the following notice, which the State Superintendent found it necessary to issue to the Schools:—

"CAUTION.—School Officers are especially cautioned against travelling book peddlers, who pretending to be agents of the State contractors, or asserting that they will sell cheaper than the contract prices, palm on to the libraries inferior and cheap editions of the work selected, or of worthless books in their places, and in common and frail bindings. Every book on this list is contracted for at considerably less than the publisher's retail price for the same in common binding, while the binding provided for by the contract is a much more expensive, as well as durable binding, than ordinary cloth or even sheep binding."

"No book peddler can furnish these books in equally good editions, and in equal binding, for the prices given in this circular."

"It is hoped that this simple and easy method of supplying the libraries with books will commend itself to the good sense of the people, and will induce a more liberal support of these valuable agencies of popular education. It would be difficult to devise a more simple plan. It is like bringing a large book store home to each district. A large list of good books—more than twice as large as any book store in the State can show—has been carefully selected, with the aid of some of the best men in the State."

* * * * *

"All orders for books and stationery, must be sent to the State Superintendent through the Secretary of the Board of School Commissioners, the Secretary keeping an account of the same," etc.

C. S. Stebbins, Esq., in his *Educational Needs of Michigan*, published in 1869, says:—"The founders of our school system thought libraries indispensable to furnish reading to the young. We do not need them now so much to furnish reading as to secure the proper kind of reading. This, our present law, would do but for one fatal defect—a defect as fatal as would be the omission of the connecting rod in a locomotive. * * * And what kind of books were they? Some good ones, doubtless; but generally it were better to sow oats in the dust that covered them than to give them to the young to read. Every year, soon after the taxes were collected, the State swarmed with peddlers with all the unsaleable books of Eastern houses—the sensational novels of all ages, tales of piracies, murders, and love intrigues—the yellow-covered literature of the world."

In the State of New York, the library system has, under the pernicious efforts of itinerant vendors, as just pointed out, greatly declined. The *New York Teacher* thus give some of the reasons for this decline:—

"The trustees refuse to be troubled with the care of the library, thus consigning it to an unfavourable location in the section, and often hide it in some dark corner of the garret, or stow it into some out-buildings where its only visitors are rats, mice and spiders. They exercise a low and pernicious taste in the selection of books. Dark and bloody tales of war and bloodshed, the silly catch-penny publications of unprincipled publishers, and the dry, uninteresting matter of some cheap old book, usurp the place of the instructive, the elevating, the refining, the progressive issues of reputable pub-

* It is worthy of note that the editors of two of the papers which attacked the Depository are booksellers, while a third is closely allied to a prominent publisher. The other two could not, of course, take sides against those who are constantly sending advertisements to their paper, and books for review.

lishing houses. They seem to regard it as a great evil that they cannot divert this sacred fund from its appropriate channel. Almost daily applications are made to the State Superintendent for permission to apply the library money to the payment of teachers' wages, and that, too, when the section is destitute of many useful items of apparatus; sometimes even of a globe and blackboard."

4. STEPS TAKEN BY THE EDUCATION DEPARTMENT FOR ONTARIO TO SUPPLY OUR SCHOOLS WITH CHEAP AND USEFUL BOOKS, MAPS AND APPARATUS, &c.

It now remains for us to state what are the steps which have been taken by the Ontario Department to supply the schools with prize and library books, maps and apparatus. In 1850 and 1851, the Chief Superintendent of Education went to England and the United States, and made special and advantageous arrangements with publishers there to furnish the Department with such books, etc., as might be required, at the lowest rates. These arrangements have been revised from time to time. The last revision was made in 1867, when the Deputy Superintendent was authorized to proceed to England to confer with the leading publishers personally on the subject, which he did, and made arrangements with about fifty (47) publishers. From his Report to the Chief Superintendent on the result of his mission, we make the following extracts. He says: "Upon enquiry, I found that none of our old publishers were disposed to offer better terms than I had been enabled to make with them some years ago. The new publishers, too, were as little disposed as the old ones to offer more than the usual trade terms to exporters. With several of the publishers I had some little difficulty, when I first called, to induce them to modify their terms. They alleged that they had already given us their best export terms for cash. After sundry conferences and explanations, they were at length induced, with two or three exceptions, to agree to an additional discount for cash of 2½, 5, 7½ or 10 per cent. (as the case might be) over and above their former rates of discount to the Department. Five per cent. was the average additional discount which I was thus enabled to secure for the Department, together with the advantage, in most cases, as heretofore, of the odd books, viz.:—7 as 6½, 13 as 12, or 25 as 24. This additional discount will be quite sufficient to pay the customs duty which has recently been imposed upon books coming into the Province, and thus enable the Department to supply the schools with a very greatly increased variety of books at the old rates, viz.:—on an average currency for sterling prices (i.e., 20 cents for the shilling sterling)."

These arrangements for the purchase of books, &c., having been explained to the Committee of the House of Assembly, appointed to inquire into the matter, together with the terms on which the books are supplied to the schools, the Committee reported to the House upon the facts as follows:—

"Your Committee have also made a thorough investigation of the Depository department, and find that the existing arrangements for purchasing stock are *satisfactory, and well fitted for securing the same on the most favourable terms. The mode of disposing of the books is equally satisfactory.*"

5. ROUTINE IN THE DEPARTMENT IN REGARD TO THE EDUCATIONAL DEPOSITORY.

From the Report of the Committee of the House of Assembly, and from the Memorandum of the Deputy Superintendent laid before the House of Assembly in 1869, with the Chief Superintendent's Return on the subject, we select the following passages relating to the routine observed in the management of the Depository:—

1. The Committee on the House of Assembly reports as follows:—

"Your Committee find that the system adopted by the Department is of so thorough and complete a character, that no funds can by any possibility be received without being checked by proper officers, whose several duties require them to make entries in various books, through which every item can readily be traced.

"They find that all moneys received by the Department are regularly deposited to the credit of the Government, with the exceptions of moneys intended to be disbursed in the purchase of articles outside of the institution [Trustees' School Seals merely], and that all expenditures are made by cheque, properly countersigned by the different heads of the department to which they respectively belong.

"They find that a perfect system of registration of every communication received by the Department is maintained, by means of which the several officers, to whose department the communication has reference, are immediately apprized of the contents, and answers are promptly returned to the same.

"Your Committee find that the amount yearly received by the Department from the Municipalities for books, maps, &c., is very

considerable, amounting in 1868 to \$20,004.30, which sum is paid directly into the Public Treasury, and should be regarded as an offset against the amount granted the Department."

2. The memorandum of the Deputy Superintendent states that all orders for England or the United States for Books and requisites, are prepared by him for approval by the Chief Superintendent. Requisitions for articles to be manufactured in the city are supervised by him for approval by the Chief, before having them submitted to tender by the Clerk of Libraries. [Requisitions to the Stationery Office, and all orders for printing to the Queen's Printer from the Department and Normal School, are made in the same manner.]

All contracts, agreements, bills, and invoices are examined, and payment recommended by the Deputy. Bills for articles despatched are compared with the sales paper, and approved by him before being sent off by post.

The selling prices of all library and prize books, and all other school requisites received from England or elsewhere, are, under the general scale approved by the Chief Superintendent, determined by the Deputy for the Clerk of Libraries, before their being marked and put away in their places.

The selection of books for local school libraries and prizes, after revision by the Clerk of Libraries, is examined and approved by the Deputy Superintendent before despatch. The object of this additional supervision is to see that the style, character, and number of the books selected, are in accordance with the order and wishes of the Municipal Council, or High, Public, or Separate School Trustees sending the remittance. This care is the more necessary in cases—now becoming more numerous every year—when parties leave the selection of library and prize books entirely to the Department. In such cases, regard is had to the condition of the school, the number and ages of the scholars, the character of the neighbourhood, whether old or new settlement, and the attainments of the pupils, the nature of the population, whether Protestant or Roman Catholic, or mixed nationality—whether Irish, Scotch, or German, &c., or any other peculiarity suggested by the parties sending the order, or incident to the case.

NOTE.—Great care is taken to prevent the occurrence of mistakes in the Depository, and hitherto with very gratifying success. As a matter of routine, each clerk having anything to do with an order affixes his initials to it, indicating that part of it for which he is responsible. Thus in case of complaint, which rarely occurs, any neglect or omission is readily traced. In a year's transactions, involving the sending out of from \$35,000 to \$40,000 worth of material to the schools, not more than from six to eight such cases occur. When they do, the case is fully enquired into, and every explanation given. In most instances, it has been found that the fault or oversight has been with the parties themselves.

6. OPINIONS OF SCHOOL TRUSTEES AND OTHERS AS TO THE BOOKS AND REQUISITES SENT OUT.

As to the satisfaction felt by the School Trustees and others, to whom these requisites were sent, we make the following extracts from letters received at the Department, viz.:—

Undsay.—"Please accept my best thanks for the choice selection you have made for our Library. Also, for the beautiful township prize. Everyone is delighted with it. We have enquired at some book stores as to the price of our library books, and find your terms such as you state them to be. The best thing Dr. Ryerson can do, is to publish his prices with those of the booksellers. It will be the best possible advertisement. What I have seen stated somewhere, is perfectly true as to the advantage to booksellers derived from your establishment. The more libraries established through the country, the greater the taste for reading, and the larger the trade to gratify that taste. *'L'appetit vient en mangeant,'* is as true of reading as of eating."

Hullett.—"The books you sent us last year gave satisfaction."

Euphemia.—"Your selection of prize books, last December, was very suitable."

Emily.—"The prizes sent gave the greatest satisfaction, and we hope to send for similar favours once or twice a year."

Raleigh.—"We got a No. 1 package of prize books last year, which was very satisfactory."

Osborne Township.—"The books (\$40 worth) which we received last year from the Department, for a township competitive examination, gave entire satisfaction, and the Council begs you will make the selection for this year also of \$30 worth."

Blanford.—"You made a selection for us last year, and the selection suited us very well. Will you have the kindness to make one again?"

Pakenham Township.—"Permit me to thank you for your tour-

tesy in sending the prizes at the time you did for the township competitive examination. The 61 volumes were excellent books."

Kincardine.—"Your selection last year suited admirably well."

Kincardine Township.—"I might state that the effect produced by these fine [merit] cards is charming. I consider them far superior to prize books."

Dawn.—"The prize books for this school section were duly received, and gave excellent satisfaction."

Dorchester South.—"We ordered prize books last year, leaving you to make the selection, and as you pleased us so well, we leave it with you this time also, believing you will send us a good selection."

Minto.—"The books you sent last year pleased very well. You are better qualified to make the selection than we are, and by doing so will much oblige."

Marmora.—"We got a lot of prize books last year, and the year before, which gave good satisfaction."

Renfrew Union School.—"You have favoured us by making an excellent selection of such books for some years already, and I trust that I may rely on your kind promise of continuing to do so."

Brighton and Murray Union Section.—"We have received, and are pleased with the books for prizes."

Woodhouse.—"I find the merit cards you sent a useful incentive to study."

Camden East.—"Having just received a lot of prize books for our day school, with which we were well pleased, we think we cannot do better than to send to the Department for a Sabbath School Library."

Clinton.—"We were very much pleased with your selection."

Hastings, Co., N. R.—"I have great pleasure in stating that the prize books selected by the Department gave general satisfaction."

Brockville.—"We prefer your selection to our own."

Hullet.—"In previous years we have had every reason to be pleased with the assortment sent from your Department, and merely forward you the above information for your guidance in selection."

Moore.—"The selection of books by the Department last year was excellent, and we intend to leave the choice to you again."

Flamboro' West.—"I find that the merit cards are a great assistance to the teacher."

Nelson.—"The selection of prize books made by the Department last year gave great satisfaction, we, therefore, leave the selection on this occasion with it also."

Admaston.—"Trustees and teachers are beginning to see the benefits resulting from the merit and prize system, and to adopt it in their schools."

Normanby.—"I should likewise take this opportunity of remarking that the Department, in the different selections which it has made for the Trustees requiring prizes, with whom I have been employed, has always given the greatest satisfaction."

Keppel.—"At the annual meeting of our school section, held last Wednesday, we passed a resolution appropriating a portion of the school fund to the purchase of some books for a section library from the Educational Department. It was well expressed by one man at the meeting—'when we learn our youths to read, if we do not give good books into their hands, they will find bad ones.'"

St. Thomas Union School.—"And have great pleasure in stating the selection by the Department of prize books is very satisfactory."

Farmersville Grammar School.—"During the year, \$30 worth of new prizes were distributed with pleasing results as far as can be judged. I deem it no inconsiderable thing to have the pleasure of distributing such an amount of sterling English reading among the youth of the country. The effects cannot be estimated but are in the hands of Providence. With every prospect of increased success during the year, and every wish to advance the prosperity of the educational system of the Province of Ontario, I am, &c."

Huntingdon.—"I once sent to you for some [books] for our school section, and they gave good satisfaction."

Saugeen.—"We were much pleased with the selection of books we received from your Department last June."

Chippawa.—"The books gave every satisfaction."

Dereham.—"Your selection last year gave satisfaction, so you can also make it this year."

Westminster.—"We received some certificate cards along with the books for which we sent last summer, and the children were so much pleased with them that I promised a certificate of 'regular attendance' to any one who should not miss one day until Christmas."

Westminster.—"We sent for and obtained prize books last year, and were so much pleased with the selection made by the Department."

Gower North.—"Last year we sent \$5 to the Educational Department and received a package of prize books, with which we were well pleased."

Gower North.—"The prize books, &c., (package No, 1), which you sent us acted like a charm on our little ones."

Moore.—"I got last year, from the Department of Education, prize books to the value of \$50 the selection being most excellent."

Dumfries North.—"The last prize books we had here were a selection made by you, with which we were highly pleased, and we thought we would let you select for us again."

Dumfries South.—"Your own selection is preferred to ours."

Hallowell.—"We received the prizes from you, and can say in return, that they gave general satisfaction. They created an interest in the section, both among scholars and parents, which has not been aroused before."

Binbrooke.—"We have received the packages of books all right, and the Trustees were much pleased with your excellent selection. They have given good satisfaction."

Goderich.—"The selection generally, I may say always, made by the Department, has given me the greatest satisfaction."

Augusta.—"I am pleased to say that our most sanguine hopes were more than realized in the truly excellent selection."

Port Rowan.—"These prizes are to be selected at your discretion, and, I may add, that your last selection gave unusual satisfaction."

London.—"We were well suited last year with your selection, and will again leave it to you."

Ancaster and West Flamboro'.—"The Trustees express their entire satisfaction with the parcel sent. More appropriate books, &c., could not have been selected, and we hope you will accept our hearty thanks for your kindness in remitting so promptly."

Townsend.—"Permit us to express the most unbounded satisfaction in the management of the Depository. We believe it to be honestly and ably conducted, and with a full appreciation of the object to be attained."

Townsend.—"The prizes sent were all that could be desired."

Charlottetown.—"The books you generally send are very suitable, and have a marked effect on the pupils of the school."

Dorchester North.—"Leaving you to make the selection, as we have been well satisfied with the selections you have made for us before."

Maryboro'.—"I return you my sincere thanks for your punctual dispatch and admirable selection of prize books. If I had been present myself I think I could not have suited the section better."

Usborne.—"As we have got prizes from the Department, both for the section and the township, to our great satisfaction."

Walpole.—"As your selection of the books suits us better than our own, we, therefore, request that you will again make a selection for us."

Harwich.—"We leave the selection of the books with you. This was the method adopted last year, and we were well satisfied with the selection."

Walpole.—"The Trustees having supplied their school with prize books from the Educational Department for a number of years, and being highly pleased with the books have determined to send thirty dollars in a few days for another supply."

Tuckersmith.—"Your package of books was received and gave every satisfaction."

Ops.—"Your former selections have pleased us, so if you cannot make the selection correspond with these prizes, make it correspond to them as nearly as you can, and we will be satisfied."

Gosfield.—"On behalf of the Teacher and Trustees of this school section, we beg to compliment you on the prizes you have selected for us."

Darlington.—"The books distributed gave entire satisfaction, and were the best lot of books I ever saw for the money."

Portland.—"Last June I sent \$5 to the Department for prizes, and I was well pleased with the selection. . . . I think that I can do much better at the Educational Department than elsewhere."

Elizabethtown.—"Permit us to say that the selection of prize books, by the Department, for this school last mid-summer was so satisfactory that we find it greatly to our advantage to submit the selection to the Department again."

Mersea.—"The prize books you sent us last year gave good satisfaction. We would like you to select the prizes this year."

Township Dummer.—"We hope that you will select such books as you deem most suitable as we are satisfied that you are more capable of making a selection than we are."

Williamstown.—"In making the selection of books (which as formerly is left in a great measure to your superior judgment) you will be good enough to select for us."

Township Wellesley.—"The books we got from the Department last year gave complete satisfaction."

Township Beverley.—"As the selections made by the Department have on other occasions been satisfactory we will leave this one also to your discretion."

Township Monaghan, S.—"We have full confidence that you will make a good selection, suitable to our school."

Township Yonge and E. R.—"We received last year a selection of school prizes from the Department which gave general satisfaction."

Township Grimsby.—"Send us a package of your selection as the prizes we had last year gave every satisfaction, being better than we could have selected for ourselves."

Township Elizabethtown.—"Leaving it to your judgment to select as we did last year, trusting you will give as good satisfaction as before."

Township Esquesing.—"We were greatly pleased with the maps you have sent us and also with the liquid slating."

Township Artemesia.—"The prize books sent in March, and selected by you gave extreme satisfaction."

Township Thorold.—"Those (prizes) we got from the Department last Fall, gave excellent satisfaction."

Township Norwich, S.—"The Trustees and myself are much pleased with your selection of prize-books. This is the sixth time we have sent for prizes since I have been a teacher here. We have been well suited every time, for which please accept our thanks."

Township Culross.—"The prize-books sent us were excellent and have given the best satisfaction."

Township McKillop.—"The public, as well as ourselves, seem to be well pleased with the books sent, as regards binding, prices, &c., and we shall be happy to add to our library yearly (as we intend) from your Department."

Township Humberstone.—"We are happy to say that the selection that was made at the Department is preferred before all others."

Hamilton.—"Hitherto our Prizes have given the greatest satisfaction."

Township Harwich.—"We were much pleased with your selection last year, and wish you to again select for us."

Township Minto.—"We have got our prize-books from the Depository for several years and have been highly pleased with the selections you have sent, and as for value I am certain that if we had to buy the books at a book-store we could not get one-third as much for the money."

Township Humberstone.—"Having previously received prize books from the Department, and tested their value, we consider it to be the most effective method of securing punctuality, good conduct and diligence."

Township Westminster.—"Our last selection we left with you and as you pleased us so well we leave it with you to give us as suitable a selection."

Township Usborne.—"The prize books came safe to hand and, as usual, gave high satisfaction."

II. Papers on the Book Trade.

1. BOOK IMPORTS INTO ONTARIO AND QUEBEC.

The following Statistical Table has been compiled from the Trade and Navigation Returns for the years specified, showing the gross value of books (not maps or school apparatus) imported into Ontario and Quebec:—

YEAR.	Value of Books entered at ports in the Province of Quebec.	Value of Books entered at ports in the Province of Ontario.	Tot. value of books imported into the two Provinces.	Proportion imported for the Education Department of Ontario.
1850.....	\$101880	\$141700	\$243580	\$84
1851.....	120700	171732	292432	3296
1852.....	141176	159268	300444	1288
1853.....	158700	234280	412980	22764
1854.....	171452	307808	479260	44060
1855.....	194356	338792	533148	25624
1856.....	208636	427992	636628	10208
1857.....	224400	309172	533572	16028
1858.....	171255	191942	363197	10692
1859.....	139057	194304	323361	5308
1860.....	155604	252504	408108	8846
1861.....	185612	344621	530233	7782
1862.....	183987	249234	433221	7800
1863.....	184652	276673	461325	4085
1 of 1864.....	93308	127233	220541	4668
1864-5.....	189386	200304	389690	9522
1865-6.....	222559	247749	470308	14749
1866-7.....	233837	273615	507452	20743
1867-8.....	224582	254048	478630	12374
1868-9.....	278914	373758	652672	11874
1869-1870 ..	220871	351171	572042	18919

2. BOOK AND STATIONERY TRADE OF TORONTO, IN 1870.

The general improvement in the business of the country is very strikingly observable in this important department of trade. There has been a steady increase throughout the year both in importation and home production. The imports of books and pamphlets for the eleven months ending 30th November reached to the value of \$234,872. This is far in advance of any previous year.

The principal publishing houses both in Great Britain and America are now issuing nearly all their books in neat styles, and at moderate prices. Canadian dealers still import principally from the British markets, although a reduction in the price of books in the United States market has increased our trade with American publishers; and as a further reduction is promised with the new year, we anticipate a still more extensive trade with our neighbours.

We observe with pleasure an increase in reprints and new publications of works of Canadian authorship.

The "National Reading Books" are now printed and bound in Toronto, and it may be said that all the facilities for successful book-publishing are here readily available.

A noticeable feature in the Canadian trade this year has been the operation of the new Copyright Act, which protects British authors here against American editions of their works. The first republication under the new Act was the celebrated novel, "Man and Wife," by Wilkie Collins. Under this Act the publishing trade in Canada, which is yet only in its infancy, will become more and more extensive. The magazine and periodical trade has largely increased during the year; both the English and American press team with new ventures in this particular line of literature. Several new periodicals have started in this city, showing an increased taste for reading among ourselves. The Canadian News Company have superseded Mr. Irving in the periodical trade, which has been extended by the opening of a number of stores in different parts of the city.

Of the stationery trade very little can be said. Dealers in this department represent it as quiet. The importations, except in a few specialties, have not exceeded the average; yet nothing unfavourable need be reported. Home manufacture, to a considerable extent, is superseding foreign importations, more especially in the lighter lines of stationery.—*Globe Review of Trade.*

3. BOOK AND STATIONERY TRADE OF TORONTO IN 1871.

The book trade has felt the impetus of the general prosperity of the country about as much as any other branch of commerce. The customs value of the imports at Toronto, of "printed books and pamphlets" for the past year makes a total of \$283,487. Publishing has also been carried on to a much larger extent than ever before. Besides works of native production, which show a gratifying increase, numerous reprints have been issued, and the demand both from the city and the surrounding country is all the time improving. There is a very large consumption of works of fiction, but the character of these is much higher than used to be the case. Books of travel, biography, history, poetry and belles lettres, are also sought after with increased avidity. In religious and philosophical literature, works of higher speculative thought and practical study, there has been an increasing interest manifested. The copyright law is still in a most unsettled, unfortunate state, and the uncertainty connected with it is a serious interference with publishing enterprise, which might otherwise be more largely and profitably developed. An anomaly of the book trade has already been referred to in these columns, namely, the admission of American reprints of British copyrights at 12½c. duty, while at the same time the Canadian publisher has to purchase the right of using the English copyright. If he does so, and pays the author a good price, he is liable to be met and undersold in the market by the American work, which pays only 12½ per cent.—*Globe Review of Trade.*

4. THE PUBLISHING BUSINESS IN CANADA.

The publishing business in Canada has made great strides within the past year or two, and promises to become a highly successful and important branch of our industry. Amongst the most enterprising of the firms engaged in it are Messrs. HUNTER, ROSE & Co., who, although they are official printers for Ontario, are endeavouring to make their mark in the book trade. They have recently issued a revised edition of Lord BULWER's poem of "King Arthur" which, as far as the mechanical part is concerned, is fully equal to anything of the kind printed in England. The typographical execution is extremely good, and the binding in green and gold is fully equal to any work of the same kind performed in Great Britain or America. Lord BULWER has appointed Messrs. HUNTER, ROSE &

Co., his publishers for Canada, and certainly no others could have put before the public in a better form a poem upon which, it is said, the distinguished author rests his future reputation more than upon any other of his works. From the same press there has also been issued a book entitled "The Creation of Manitoba, or a History of the Red River Troubles by Mr. ALEX. BEGG, of Fort Garry." This, as its title implies, is a careful and minute account of those disturbances in the North-West which a year-and-a-half ago excited so much interest throughout Canada. Mr. BEGG was a resident in the territory during the whole time, and became personally familiar with many of the events connected with RIEL's rebellion. He vindicates the policy of the Hudson's Bay officials during that trying period, and has evidently no sympathy with those who would have precipitated rash and extreme measures. He applauds the mode of settlement which was ultimately adopted, and thinks that with moderate and prudent counsels there is a great future in store for the new Province of the North-West. Mr. BEGG's record of the crisis and proceedings of 1869-70 will have much value as a historical work. In addition to these books Messrs. HUNTER, ROSE & Co., have also published in excellent style Mrs. MOODIE's "Forest Life in Canada," GEORGE MACDONALD's "Wilfrid Cumbermede," Mr. CHARLES READE's "Terrible Temptation," which has been given in serial form in general English, American and Canadian periodicals. All these works are for sale at the booksellers.

5. THE ENGLISH BOOKS OF 1870.

The *Publishers' Circular* has recorded the publication in Great Britain, in 1870, of 3,377 new books, 1,279 new editions of books originally published prior to 1870, and 426 new American works. The *Circular* has arranged the whole 5,082 in 14 classes:—811 were theological works; 568 educational; 695 juvenile; 381 novels; 123 books relating to law; 119 relating to politics and trade; 346 to arts and science; 338 to travel; 396 history and biography; 366 poetry and the drama; 338 year books and bound volumes of serials; 193 relating to medicine and surgery; 249 *belles lettres*, essays, monographs, &c.; 150 miscellaneous, including pamphlets other than sermons. The three last months of the year saw the largest number of new publications:—October 488; November 549; December, 810.

III. Papers on Literature and Reading.

1. EVILS OF CORRUPT LITERATURE.

We need not refer to that mass of corrupt literature outside of the knowledge of respectable people, which we are assured is great and increasing. There is much which everybody is supposed to read corrupt and corrupting. Its brilliancy is the putrescence of rotten wood, that shines in the dark. Its originality it chiefly borrows from original sin. Profanity it employs for wit. Yet it so affects the whole volume of literature that its quality is visibly deteriorating before our eyes; like a river that receives the sewerage of a great city. The stream needs to be turned the other way—like the river at Chicago—to cleanse it of its filth; else a conflagration like that of Chicago would hardly cleanse it. Who knows but that such a wholesale destruction as that of the Alexandrian library, which, with some things better, burnt up the abominations of the Pagan world, would be a blessing to a future age.

Printing seems to render such a mode of purification impossible. But leading journals in London and New York are calling attention to the unhappy influence of such writers as Swinburne, Charles Reade, Rossetti, and others. Did not the evil assume alarming proportions, the *London Times*, the *New York Tribune*, and newspapers of that class, would hardly make it so prominent.

An early period of English literature offends by its grossness. The classics of that age are, perhaps, best read in expurgated editions. But we cannot, like Burke, admire the French fashion in literature any more than in life; and believe that "vice by losing all its grossness, loses half of its evil." By being less manifest, it, on the contrary, becomes more dangerous. Prudery and pruriency are not far apart. With too much coarseness there was the riotous strength of health in the early literature that is wanting in ours. The freedom of expression was like the freedom of manners in barbarians or children, to whom much is allowed.

There was a great and marked improvement, however, in literature, when the female sex became educated. Men began then to write as they would converse in the society of ladies. Woman is to man "as music to words," or as poetry to prose; whatever she touches she adorns, but she also blesses and hallows. In this day, when we hear so much about her "sphere" and "rights," and

about her purifying politics, it is to be hoped that she will retain the sphere she has so well filled, so as to keep home sweet and the republic of letters pure.

It is ominous, certainly, that when such assaults are made on the foundations of faith, the sacredness of marriage, and on "whatsoever is lovely and of good report," literature should so change its character. None of the evils that afflict our age are more portentous than this. It saps the foundations of society. It is like the apocalyptic vial poured out into the air that affects the very springs of life. It diffuses abroad an atmosphere of death like the fabled Upas. Such reading introduces, through the imagination, an enemy into the very citadel of the soul. Thus a brilliant literary genius can exercise influences subtle, widespread and permanent, that are temptations to evil akin to those we ascribe to the Evil Spirit. It is sad when respectable publishers supply the means, and unreflecting youth the victims, to such diabolical temptations.

2. "WHAT OUGHT WE TO READ?"

The above important question formed the subject of a lecture delivered recently in Toronto, by the Rev. M. J. Ferguson, Professor of Rhetoric in St. Michael's College, Clover Hill, Toronto.

Rev. Mr. Ferguson, in the opening part of his discourse, alluded eloquently to the value of reading and the importance at the present time when literature is so plentiful, in the young reading such works only as would lead their minds in the right direction. For his part, he would rather see a man blown into atoms by a gun-powder explosion, than to behold him wreck his soul by reading, and imbibing, and practising the principles taught by many vicious books. The destruction of the body was nothing compared with the destruction of the soul. He would shortly say, in answer to the question which headed his lecture, biography and such science as did not seek to question the truth of the Scriptures. Novels were not all bad, but those which were not positively bad had not sufficient good in them to pay for their perusal. There was not strong matter enough in them to strengthen the moral muscle, or to aid in forming the great principles by which true manhood is guided. Reading them was like subsisting on a perpetual diet of gruel. The reader had to wade through 300 to 400 pages to find that the hero and heroine did what millions before them had done—performed the prosaic act of getting married. Those novels, the teachings of which are vicious, ought to be shunned like bad companionship. They should be admitted into no family. To his Roman Catholic auditors the rev. gentleman said they should read their own literature as approved by the Church. There was plenty of it, and they should in this follow the example of the Protestants, who were very active in circulating their tracts and periodicals, which enunciated their religion. The lives of their saints would incite them to walk in the right way. Their books might cost more money, but being a superior article they were worth the enhanced price. The rev. gentleman sat down after speaking for nearly two hours. At the close, Very Rev. V. G. Farrelly expressed the thanks of the audience for the able discourse which had been delivered.

3. THE BAD INFLUENCE OF NOVELS.

The extraordinary flood of novels which is now pouring over the country is poisoning the mind of our young people and unfitting them for the useful pursuits in life. Through the excessive indulgence of this literary taste, and the other causes, the young boys and girls of our large cities, instead of being modest and retiring in their manners, thrifty and industrious in their habits, and submissive to those placed over them, become bold and forward, reckless and giddy, and disobedient to parents. A great responsibility is attached to those into whose care these young people of that age when their habits are being formed, is entrusted, and it behoves them, in this fast age, to take such measures as will prevent their children from being led into a labyrinth of vices, from which as they grow older it will be difficult to extricate them. "A word to the wise is sufficient"—*Leader*.

4. THE SUNDAY SCHOOL LIBRARY.

A writer in the *Advance*, discussing a list of books which has been published as suitable for the Sunday-school library, makes the following judicious remarks upon this important subject:—

What books should we read on Sunday? One man would not take any religious papers nor magazines, professing to train his family on the Bible and strictly devotional works.

He succeeded indifferently. Such things must be of one's own free will. Now comes the question, if you read religious papers,

How to leave out the worldly items? And how to distinguish them? And as to books. Where to draw the line? Evidently it cannot be a very straight one. The books named do not all suit me for our Sunday-school library. They are good in their way, but children always feel that the book may, of course, be read on Sunday. We are breaking down the barriers fast enough, and the community is come fast enough to the point of making every day alike, and not a Sunday either. Without any superstition in the matter, it still seems fitting that the reading should suit the character and design of the day, and be a help upward, directly and not by by-paths. Several of the books in the list published I do not know, but the names suggest a doubt. And "Summer Driftwood," may be very lovely. Some people like it, but the journal sounds very soft and innocent for a girl of nineteen. Religious sentimentality is not invigorating. As to some of these works, they may be all smooth, and benevolent, and blameless, but there is no direct recognition of religious truth. And in that class of books there is a failure to speak of any religion, a sort of trust in natural goodness, a taking for granted that all is right and that everybody is, on the whole, about right, which to my mind, unfit them for Sunday-school libraries.

Children may not play a certain game on Sunday, but they may read how such a game was played, and fill their whole minds with it, because it is in a Sunday-school book.

There is a growing laxity as to Sunday-school reading, and I see Christian people take up books which have not a mention of religion in them, novels of daily life, and quietly read them on Sunday. The marvel is, how they can want to do it, even if their consciences will let them.

There is such beauty in the Scripture rule, in these days of scoffing at blue laws and Puritan strictness; "If thou shalt call the Sabbath a delight, the holy of the Lord, honourable, and shalt honour him, not speaking thine own words, nor thinking thine own thoughts, nor doing thine own pleasure on my holy day."

And there is a very beautiful and lovely promise to those who keep the holy day in this spirit.

But as to Sunday-school libraries, it is evident we have not yet arrived at ultimate truth. Meantime we must stumble on as best we may, and if we err let it be on the safe side.

5. PUBLIC LIBRARIES IN ITALY.

From a return of the statistics of public libraries in Italy for 1870, presented to the Minister of Public Instruction, it appears that Italy possesses 23 of these institutions, which were resorted to last year by 723,359 readers. Naples, the most populous of Italian cities, with five public libraries, has also the largest number of readers, being 192,992; Turin, with one public library, has 115,000 readers; Florence, with three, 92,000. The library most frequented in proportion to the population was that of Catania, with 18,641 readers. Nine only of the libraries are open in the evening; the number of visits made at that time was 164,000. Works in general literature and philology were most largely in request; after these, treatises on jurisprudence and legislation; and in the third place, works on physical science. The proportion of novels issued was very small, which may perhaps be owing to works of this description being but sparingly admitted into the libraries. The total number of works added to all these institutions during the year was 11,708.

6. THE DIFFUSION OF KNOWLEDGE IN THE NINETEENTH CENTURY.

The nineteenth century bids fair to renew, in one respect, the fame of the sixteenth. That was the age of the revival of learning after a long period of neglect and acquiescence in fixed traditions. The Reformation was essentially an appeal to history and truth. Everywhere, consequently, it initiated a more widely diffused and a broader education, and in this country it was marked by an extraordinary middle-class movement towards the promotion of learning. In the great majority of towns which had the least pretention to local importance, some merchant or prosperous tradesman left an endowment for a school in which poor boys were "to be bred up in the art and science of grammar and in honest courses." The lapse of three centuries had left many of these foundations stranded, out of reach of the tide of modern life, and of no use to anybody except the officials who drew from them sinecure salaries. The strange consequence was that some thirty years ago we awoke to the fact that among all classes of the population, except one, there was a general lack of education, and of the means of obtaining it. The poor were not educated at all; the lower middle classes were worse than uneducated—they were trained in pretentious ignorance by private "Academies;" the class

above them found a limited number of openings into the great schools of the country, and thence into the Universities; but the education thus furnished was chiefly useful in helping boys out of their class, not in qualifying them for its duties. The whole education of the country had, in fact, settled down into one narrow groove, determined by the requirements of the Universities. With incalculable resources around us, with endowments scattered liberally throughout the land, we were yet, in the mass, an uneducated people.

We are even yet very far from having remedied this deficiency; but the thirty years just past will be memorable for the sustained and comprehensive efforts which have been made to render a "sufficient and efficient" education accessible to all. From the Universities to Ragged Schools, philanthropists, professors, and statesmen have been at work, until the outlines are at least indicated of a complete system of National Education. We began with the extension of education among the poor; we then reformed the Universities, we passed from them to the Public Schools, and, finally, took in hand the multitudinous mass of middle-class endowments. It has been, at the same time, the age of the school-master. His profession has risen to a new dignity, and has acquired an unprecedented authority. The result is that we have an intelligent and vigorous body of men labouring to solve the problem of providing for each class the especial education it needs, while the Legislature has rendered all existing resources available to the utmost. We see accordingly on every side old foundations starting into new life, and new foundations springing up to fill the gaps still remaining. Whatever a parent's means or whatever his expectations for his son, he will have little difficulty in finding some school or other in which his demand may be supplied; and as the demand grows the supply increases in proportion. Considering that there is not any very great distance between the knowledge of the present day and that of a quarter of a century back, it is surprising to reflect what an immense advance has been made in the diffusion of that knowledge among all classes of the people. The day is not distant when not merely will a ladder have been planted with its feet in the gutter and its summit in the Universities, but when every boy, whatever his destination in life, will be able to acquire the utmost intellectual training compatible with his occupation. The latter provision is, perhaps, even more important than the former. It is neither desirable nor possible that every clever boy should become a Judge, a Bishop, or a General, but it is both possible and desirable that all the work done in the country should be done with the utmost intelligence practicable. Our people work very hard, but if their intelligence were equal to their industry they would far eclipse the present results of their exertions.

In this great "revival of learning," which will be not the least conspicuous mark of the present century, we have maintained in a singular degree our traditional English methods of reform. We have not like some people, cut down everything old, and thrown the remnants into one vast cauldron on the chance of something better emerging. We have made, on the contrary, as little change, either in local circumstances or in methods of teaching, as was compatible with inevitable requirements. Take, for instance, the ceremony of yesterday at Reading, which has suggested these reflections. It is the hope of the people of Reading and the neighbouring country that they have set on foot a great Middle Class School which will equally meet the wants of the boy who is designed to be a thorough scholar and of the youth who is at an early age to enter on some practical career. But this new establishment arises from a simple re-arrangement of an old foundation, and the liberal subscribers who have given the Reading School so splendid a start are encouraged by the thought that they are building on the traditions of the past. As the Lord Chancellor stated, the history of the Reading School dates back to the time of Henry VII., and has since then been associated with several famous scholars and men of the world. It is still to be a Grammar School, in the best sense of the words. Boys are to be taught before all things the art of writing, speaking, and thinking accurately, and when furnished with this indispensable instrument they are to apply it to the special subjects they may select for the work of their lives. No reform in our ideas of education has inverted, or can invert, this order of training. We may improve the process, by dismissing the barren routine of mere parrot imitation in which so many valuable hours are still spent at our great schools, but it would be a fatal error to set the young mind to substantial study before it has learnt the elements of speech and thought. It is in this respect that the old study of Latin can never lose its value, though we cannot altogether follow the Lord Chancellor in his staunch adherence to all the time-honoured practices of Winchester. It is a pity that a man is so rarely struck between the advocates of radical innovation in instruction and enthusiastic "old boys," who, however radical in public life, are conservative of every custom of their schoolboy

days. The Lord Chancellor justly urges in favour of composition in Latin and Greek, that it is impossible thoroughly to know a language without practice in writing and speaking it. But what has this to do with the custom of verse making? Is no Englishman capable of writing and speaking his native tongue with correctness and vigour unless he can string rhymes together in feeble imitation of good poets? Prose composition is an invaluable exercise; but, except in the rare instances where a boy has a poetical turn, the time spent on verses, which, to the last, are little better than "non-sense verses," is simply wasted. We believe, with the Lord Chancellor, that the old system was substantially sound; but the great problem for the masters of the present day is to retain its substantial elements while discarding the excrescences which arose in days when learning was valued more for ornament than for use. Our modern schools, in their system of teaching as well as in their material resources, must grow out of the old foundations, but must enlarge and adapt themselves to the altered demands of the times. —*London Times*.

7. "HOME, SWEET HOME."

A writer of the *New York Evening Post* supplies the missing stanzas of "Home, Sweet Home," and remarks: These words were by John Howard Payne, and were sung in "Clari, the Maid of Milan." The air was originally Sicilian, and was, with slight alterations, introduced by Donizetti in his opera of "Anna Bolene" at the suggestion of the *prima dona*, Pasta. The stanzas in question are the third and fourth of the song, and are as follows:

III.

How sweet 'tis to sit 'neath a fond father's smile,
And the cares of a mother to soothe and beguile,
Let others delight 'mid new pleasures to roam,
But give me, oh! give me the pleasures of home.
Home! home! sweet, sweet home!
But give me, oh! give me the pleasures of home.

IV.

To thee I'll return, overburden'd with care,
The heart's dearest solace will smile on me there;
No more from that cottage again will I roam,
Be it ever so humble, there's no place like home.
Home! home! sweet, sweet home!
There's no place like home, there's no place like home.

8. THE PRICE OF POEMS.

Successful poets, now-a-days, get what are called fancy prices for their productions. Mr. Tennyson can always command his price, even for an inferior article; and some people are expressing their surprise that Mr. Browning should get £100 for his new poem, "Herve Riel," which recently appeared in one of the magazines of the day. Some notes on the remuneration received by celebrated authors dead and gone may not be uninteresting. We all know what Milton got for his "Paradise Lost"—namely, £5, with £5 for the second edition, and £8 afterward. Dryden, for his famous "Ode on Cecilia's Day," received 250 guineas in all—a pretty fair comparison, we think, even with modern times; while Pope, for his poem bearing the same name, and intended, although unsuccessfully, to rival Dryden's masterpiece, got only £15. Oliver Goldsmith, for his "Vicar of Wakefield," received £60. Gay, the author of the "Beggars' Opera," made £1,000 by his poems: while Lord Byron—perhaps the most successful poet that ever lived—made £15,000 by his works. For his "Lay of the Last Minstrel," Sir Walter Scott received from Constable £600, and for his "Marmion," £1,059. Thomas Campbell's "Pleasures of Hope" realized £1,050, and his "Gertrude of Wyoming," 1,600 guineas. Crabbe received for his poems £3,000 from Murray. The "Irish Melodies" gave Moore £500 a year. Certainly, in these latter days, really good poets have not had much reason to grumble; and, perhaps, although the present is far from a poetical era, and our supply of first-rate poets is at the lowest ebb, passable poetry—even of the ordinary magazine sort—is better paid for than ever it was before.—*Once a Week*.

9. ENGLISH SYNONYMS.

The copiousness of the English tongue, as well as the difficulty of acquiring the ability to use its immense vocabulary correctly, is well exhibited in the following array of synonymous words; which, if not new, is yet a capital illustration of the nice distinctions

which characterize so many of our vocables. It is no wonder that we slip occasionally, even the wariest of us:—

A little girl was looking at the picture of a number of ships, when she exclaimed, "See what a flock of ships!" We corrected her by saying that a flock of ships is called a fleet, and that a fleet of sheep is called a flock.

And here we may add for the benefit of the foreigner who is mastering the intricacies of our language in respect to nouns of multitude, that a flock of girls is called a bevy, that a bevy of wolves is called a pack, and a pack of thieves is called a gang, and a gang of angels is called a host, and a host of porpoises is called a shoal, and a shoal of buffaloes is called a herd, and a herd of children is called a troop, and a troop of partridges is called a covey, and a covey of beauties is called a galaxy, and a galaxy of ruffians is called a horde, and a horde of rubbish is called a heap, and a heap of oxen is called a drove, and a drove of blackguards is called a mob, and a mob of whales is called a school, and a school of worshippers is called a congregation, and a congregation of engineers is a corps, and a corps of robbers is a band, and a band of locusts is called a swarm, and a swarm of people is called a crowd, and a crowd of gentlefolks is called the *elite*, and the *elite* of the city's thieves and rascals are called the roughs, and the miscellaneous crowd of the city folks is called a community, or the public, according as they are spoken of by the religious community or the secular public.

10 ABOUT CANADIAN NEWSPAPERS.

Fifty-five years ago the *Kingston Gazette* was the only paper published in Ontario. From Mr. Lovell's carefully compiled directory we learn that there are now published in Ontario 24 dailies, tri-weeklies, 1 semi-weekly, 6 semi-monthlies, 1 quarterly, 1 annual, 195 weeklies—a grand total in all of 256. The Province of Quebec publishes 96 journals of all sorts; Nova Scotia, 37; New Brunswick, 34; Newfoundland, 15; Prince Edward Island, 10. The figures for British Columbia and Manitoba are not given; but it may be safely stated that Ontario publishes as many journals as the seven remaining Provinces of British North America combined. It may be questioned if this multiplication of journals has not been carried too far, and whether some process of "natural selection" would not improve those which might be left. Fewer and stronger journals, using telegraph wires more freely, and employing a higher class of talent on their columns, would better meet the requirements of the reading public. Our splendid system of Canadian telegraphy has been until lately comparatively little used for the purpose of the newspaper press, except by the Toronto journals. The Montreal Telegraph Co. is fitted to become a strong ally of the newspaper press of Ontario and of Canada, having now under its control no fewer than 8,700 miles of poles, 52,347 miles of wire, and over 700 telegraph stations. The Dominion Telegraph Company, a new enterprise, is also rapidly extending its sphere of operations.

IV. Correspondence with the "Journal."

1. CONSTRUCTING TIME TABLES IN OUR SCHOOLS.

BY JAMES HUGHES, ESQ., MASTER BOYS' MODEL SCHOOL, TORONTO.

New blank time tables have been prepared to suit the changes recently made in the programme of studies for the Public Schools of Ontario. They are adapted to the requirements of any School in which there are not more than six classes, and can be obtained at the Educational Depository.

As letters are received at the Education Department from time to time, asking for information with reference to the preparation of time tables, the following suggestions are offered with the hope that they may be beneficial to many teachers throughout the country.

Of course the arrangements of the studies, and the number of classes in a school, will depend in a great measure upon the judgment of each individual teacher, and the circumstances in which he is placed, but the principles here given ought to be observed in all cases.

Those subjects which require the use of the reasoning powers, more than the memory or manual dexterity, should be taught in the early part of the day, when the mind is fresh and vigorous.

In order to maintain a lively interest on the part of the pupils till the close of the day, it is better to vary the exercises as much as possible. Kindred subjects, such as arithmetic and algebra, ought not immediately to succeed one another.

Neither writing nor drawing should be taught immediately after any intermission, as the muscular tremor resulting from exercising

will prevent the necessary steadiness of hand at such times. This remark is specially applicable to the winter season.

Two half hour lessons are better than one hour lesson, except, perhaps, in arithmetic or algebra.

It is more convenient to have the lessons of alternate days as nearly as possible the same. By this arrangement both teacher and pupils will more easily remember the order of the studies without reference to the time table.

In schools where one teacher has to take charge of several classes at the same time, great care must be taken to assign the work so that while one class is reciting, the others may be advantageously engaged in preparing their lessons; practising writing or drawing; or working the examples contained in their text books on arithmetic or algebra. In such schools it is advisable to reduce the number of classes as far as possible. For instance, the six reading classes may be combined, so as to form only two or three for arithmetic. Each pupil will thus obtain twice or thrice as much arithmetical explanation as if the six classes were taught separately.

It is of the utmost importance that the teacher rigidly adhere to the time table. One of the great deficiencies in the character of young persons is the lack of system and punctuality in the performance of their duties. This deficiency in character is the result of erroneous training, and, as the teacher generally becomes the model for his pupils, he should never fail to commence and close his lessons exactly at the appointed time.

In schools where one teacher has to take charge of six classes great care should be taken to have the lessons so arranged that, while one class is receiving explanation, all the others may be profitably engaged in the preparation of their lessons, in working the examples contained in their text-books, or in writing, drawing, &c. In such schools it is advisable to reduce the number of classes in every subject but reading. Three classes will be sufficient for any other subject, and in many of the subjects the whole school may be taught simultaneously. The more nearly a teacher can approximate the plan of having all his pupils engaged at the same work at the same time, the more easy will be his labour, and the more rapid the advancement of his class. The following will be found to be a fair division of the thirty hours of actual teaching to be done each week, where there is only one teacher:—

	Hours.		Hours.
Reading	10	Human Physiology and Na-	
Spelling	1½	tural History	1
Writing	1½	Natural Philosophy	1
Arithmetic	3½	Chemistry and Botany	1
Grammar	2½	Algebra	1
Composition	½	Geometry and Mensuration..	1
Geography	2	Book-keeping	½
History	1½	Linear Drawing	½
Christian Morals and Civil		Music	½
Government	½		

Where there are more teachers than one, some of the time devoted to reading by the above division may be given to other subjects. As there is provision made on the new Time Tables for assigning sixty lessons in a week to each class, teachers will be able to assign the work of each class for every half-hour in the week.

2. APPORTIONMENT OF SCHOOL GRANTS.

To the Editor of the Journal of Education:

SIR:—The council of a township in which are twelve school sections, unequal in their valuations and school taxes, in teachers' salaries and other expenses nearly equal, wishing in some degree to equalize their burdens, gives to them out of the common rates of the township \$2000, to be apportioned amongst them, according to the efforts made by each section in sending its children to school, and also in proportion to the rate in dollar at which each section (the previous year) taxed itself for school purposes.

The average attendance and rate in dollar of each being given, what does each section receive?

Section 1 has an average attendance of 90 out of 200 of school age in its section, and was rated the previous year at four mills to each dollar of its assessment, &c.

Section 1 — 90 out of 200x4	210	9
2 — 68 do 160x4	198	41
3 — 36 do 90x4½	210	9
4 — 26 do 80x5	189	66
5 — 48 do 120x2½	116	72
6 — 44 do 120x2½	107	
7 — 40 do 120x3	116	72
8 — 35 do 119x3½	120	22
9 — 32 do 84x4	177	87

10 — 30 do 90x4½	175	7
11 — 24 do 75x5	186	74
12 — 18 do 66x6	191	41

2000.00

A part of a cent has been added here and there to save the printing of fractions. It will be observed that sections 5, 6, 7, 8, receive much less than the others, which arises mainly from their having more property, and consequently being taxed less in the dollar. Section 12, though not having a large attendance, being taxed at six mills, receives more than an average part of the whole sum given. Sections 1 and 2 have each two teachers, but this need not be taken into account, being counterbalanced by rate in dollar.

Computing apportionments in this manner, should a section seem to receive less than its share, it will in proportion, as its separate taxation becomes raised to pay the remainder of its school expenses, receive a greater share of the public grants the following year.

In conclusion, it seems that were large sums given by councils out of the common taxes, greater efforts would be made by each section to secure a good attendance, the necessity of compulsory laws lessened or removed, good teachers it would be the interest of sections to engage, who, by increasing the attendance, would lower the rates in dollar of the sectional assessment; and in cases of difficulty as to the boundaries of sections, &c., township councils, by having power to levy by direct taxation on the whole, would have fewer complaints from small sections, and be in a better position to change or rectify limits, if required.

I am, Sir,

Yours respectfully,

G. S., a Trustee.

Caledon, Feb. 6, 1872.

3. MATHEMATICAL.

To the Editor of the Journal of Education for the Province of Ontario.

SIR,—As I suppose you would have no objection to publish a communication on any scientific subject, I would feel much obliged by your giving insertion to the following discussion and criticism on a long disputed problem in which I am concerned, hoping that it may be of some interest to, at least, a portion of your readers.

The problem I allude to, is No. 13 of a series of problems published in the *Canadian Almanac* for 1869. I sent the Mathematical Editor solutions of all the problems of 1869, but I was rather disappointed to find that there were three of the solutions for which he did not give me credit. I had some correspondence with him about these three problems. I felt certain they were correct, and gave him my reasons in support of them. He acknowledged two of them correct, and promised to give me credit for them in his next issue of 1870, which he did. As I had sent the solutions for 1869 at the latest hour for publication, and as he said he had not had time to examine them as thoroughly as he could desire, I was satisfied with that apology, and that no injustice was intended, and therefore would have let the matter drop had he acknowledged the other problem also. But he still persisted in asserting that my solution of that problem, viz: No. 13, above mentioned, was wrong in principle. Therefore, the question concerning the problem No. 13, takes entirely a different shape. It is not whether any oversight has been made or any injustice wilfully done; but whether the Mathematical Editor, or I, am right on principle, in the solution of that problem. But though I differ from him in one problem, that would be no reason to suppose that I wish to disparage his authority, or inveigh against his ability as a Mathematical Editor. In justice to him, I must acknowledge that with the exception I mentioned, he has shown good judgment and ability, and in all my correspondence with him, he has shown a love of justice and fair play. But no man, in science at any rate, can claim to be infallible; nor can he have any just cause to feel aggrieved, because I claim the right of exercising my own judgment and maintaining my position, when I believe I am right.

If I did not get credit for the solution of the problem above referred to, it would place me in a false position with regard to the other mathematical correspondents of the *Almanac*; for it would place me below about seven others who were credited with the full number of solutions; whereas, I can now prove satisfactorily that I should be credited with correct solutions of all the problems for the year above mentioned, 1869; for, although two of my solutions differed in principle from those given by the Editor, yet he has himself acknowledged one of them to be correct, besides another which was an oversight, and the other, No. 13, I think is settled decisively in my favour; therefore, instead of being behind several others in the solutions for 1869, I think, if I do not stand clearly and deci-

sively first, I surely do not stand below any other correspondent for that year.

It will now appear why I have put myself to a great deal of trouble, and why I have contended against a good deal of discouragement, in order to carry the point at issue—to place myself in a true position and to maintain truth and right. The strong assurance that I have all along entertained, that truth would at length prevail over error, has been fully justified. Indeed, several learned gentlemen, whose opinion of my solution I obtained, were at first in favour of the Mathematical Editor, but I believe most of them have since changed their opinion; so that I think there can now hardly be any opposition to the weight of authority that has been from the first, or is now in favour of my solution.

The contested problem, No. 13, reads as follows:—

"A building lot is sold on the condition that \$1 50 shall be paid for every yard in length, and \$1 25 for every yard in breadth. Find the dimensions so that the purchaser may have the greatest amount of land possible for \$426?"

This problem, indeed, is not so extremely intricate and difficult, but it has engrossed some attention from the fact that there has been a contest about it—a circumstance which gives to many things, not so important in themselves, more or less notoriety. It will be seen that it is a problem on "maxima and minima," and I think it will plainly appear that I have given a true maximum. My answer is 142 yards in length, by 170 2-5 yards in breadth; while that given by the editor, and which he accepts from all his correspondents as the true answer—is a square whose side is 156 10 11 yards. Any one who tests these different results, will find that my maximum exceeds that of the editor by about 200 square yards. The premise on which he founds his solution is wrong. He assumes that all the four sided figures in the above problem, and of which the maximum is to be determined, are of equal perimeter. This assumption would destroy, or at least, limit the right of the purchaser to choose whether he would take more or less of the cheaper dimension. The proposition, on which he founds his solution, is: "Of all four-sided figures of equal perimeter, the square is the greatest;" but it is manifest that the more of the cheaper dimension that is taken, the greater the perimeter would be, and vice versa, therefore his proposition, though true in itself, is not applicable in this case, for there might be innumerable different perimeters.

Now, the question to be determined by the solver of the problem is, whether there might not be some oblong with a larger perimeter, and such that, notwithstanding its *disadvantage* in shape, it will have a greater area than the square, with a smaller perimeter, and with its *advantage* in shape. That there is such, the answer given by me and sanctioned by good authority indisputably proves. But the editor, perceiving this, forsakes the mathematical ground, and seeks to make a philological question of it. He insists that the breadth should not exceed the length, even though the result of the solution should demand it; even though as in this case, the maximum requires it. But though words may be, and sometimes are, used in a technical sense in science, yet, in this case, it is not necessary for me to ask for any technical meaning or interpretation of the word alluded to. The term breadth is sometimes used for the longer dimension by good authors, either in speaking or writing. Thus, I have seen, in at least two geographies, the length of Lake St. Clair, given as 20 miles, and its width 36 miles. I have also seen the term breadth used by a mathematical author for the longer side. I could give many more examples did space permit. The editor should also remember that the mathematics is an exact science—perhaps the only exact science—and that the results obtained by it cannot be controlled by any preconceived notion of the value of length or breadth, height or depth, width or thickness. No other sort of human reasoning is more certain, more decisive, more enduring. It stands the test of "time"—the best, the surest of all tests—

"Time, the corrector where our judgments err,
The test of truth Sole philosopher,
For all besides are sophists."

The decisions of mathematics are inexorable as death or the grave, and are immutable, irreversible, indefeasible and incontrovertible. If, then, the common acceptance of the word "breadth," may admit of its being used in accordance with the result obtained by me, and if the exactness of mathematical science positively requires it to be so used in some cases, I think I have good reason to believe that I have given the true solution. But should the editor still be unconvinced, though I should suppose the reasons given, are unanswerable; yet he surely must, and in his issue lately published, it would seem that he does pay some deference to the authority I have given in favour of my solution—that of Professor Cherriman, of the University of Toronto, and Professor Loomis, of Yale College, Connecticut,—two among the ablest and most eminent mathematicians in America, if not in the world. I sent

them each an exact copy of the problem as in the Almanac, with the two solutions; the first solution my own, the second that of the editor. Their decisions are as follow:

Professor Cherriman's opinion of the two solutions:

"The second solution is incorrect on account of the assumption that the figure is a square. This would be the case if the price of a foot frontage equalled price of foot depth, in which case the problem is equivalent to finding the form of the rectangle of given perimeter and greatest area, i. e., a square."

Professor Loomis's decision:

"Your second solution is manifestly erroneous, since (154 10 11) is less than 170 2-5 x 142. Your first solution is correct."

The mathematical editor does not venture to dispute the authority I have given; yet he does not give a full acknowledgement of my solution. In his issue for 1872, which has lately appeared, he says, "Mr. R. S. Finlay is also entitled to much credit for having made a thorough investigation of problem 13, of 1869; he is prepared to show on the best authority, that the answer given in the Almanac is incorrect." Well, I now give my authority, and also some of my reasons, to show that the "answer given in the Almanac is incorrect." The affair is to me now as complete and satisfactory as I could wish. I feel perfectly satisfied I have gained the point at issue between me and him in the judgment of all intelligent men who are acquainted with the reasons given, and the facts of the case.

I desire to apologize to you, Mr. Editor of the *Journal of Education*, for trespassing so much on your valuable space.

Yours, &c.

R. S. FINLAY.

Dover, Dec., 11th, 1871

V. Biographical Sketches.

1. COL. GEORGE CHISHOLM

Was born at Fort Erie on the 16th September, 1792, and was the youngest son of George Chisholm, senior, who was an U. E. Loyalist, and settled on the North shore of Burlington Bay, in 1794, and died there in 1842, and was said to have attained the advanced age of one hundred years. Col. Chisholm took an active part in the war of 1812. He belonged to the 1st Flank Company of Volunteers, was present and fought at the battle of Queenston, when Gen. Brock was killed, and took part in nearly all the battles that were fought at that time on the Canadian frontier. At the battle of Lundy's Lane he commanded a company. He was of the party who went over with Colonel Bishop and burned what there was at that time of Buffalo. He was present when the steamer *Caroline* was sent over Niagara Falls in 1837, and some years after held the colours, that were taken from the steamer before she took her leap, and he afterwards gave them to Capt. McCormick, who was then returning to England; but, before giving them to him, he exacted a promise that he would always hoist them on the 29th of December. In 1837 he was gazetted a Lieutenant-Colonel, and in 1838 Colonel. When the Rebellion broke out in 1837 he proceeded with the late Sir Allan N. McNab, with seventy-two volunteers, to Toronto, then York, and marching up to the City Hall they found the late Chief Justice Robinson standing sentry; he supplied the men with Government arms and ammunition. On the 7th of December, while crossing a field to dislodge the rebels from a piece of woods near Montgomery's, back of Toronto, a ball from the enemy struck the stock of his musket, partly splitting it and remaining imbedded in the stock. Sir Francis Bond Head afterwards presented him with this musket accompanied with an expression of his appreciation of his services. In 1851 his wife died, since which time he has lived with his sons. He leaves behind him one daughter and five sons, the youngest of whom is D. B. Chisholm, Esq., our present Mayor. There are many old settlers yet living who relate with pleasure the many acts of kindness which they received at the hands of Col. Chisholm when they first landed on Canadian soil. His house was always a home for the stranger. And he was never known to send any away empty. His thorough knowledge of the Chippawa Indian language enabled him to be of great service to the Government and people in an early day when the Indians abounded in this part of the country. He possessed a constitution of unusual power, and during the whole of his eventful life he was entirely free from sickness until within a few weeks before his death, when his constitution began to give way, and he died in perfect peace, without any apparent pain and retaining his mental power to the last. During the vigour of life he took an active part in the politics of his country, and was allied with the conservative party. He belonged to the Masonic fraternity, and was among the oldest of the members in this part of the country. There are few men of his generation now

living in this part of the country, and we part with them with regret, for they were a hardy, noble race of men, and did much for this country when it was a wilderness. Of Col. Chisholm it may be truly said, "another landmark is gone."—*Hamilton Spectator*.

2. MR. DANIEL McLACHLIN.

One of the old landmarks of the Ottawa country passed to his rest on Tuesday, in the person of Mr. Daniel McLachlan, of Arnprior. The deceased gentleman, who was, we believe, an Irishman by birth, has been long and intimately identified with the lumber business of the Ottawa. Coming here as early as 1836, he was one of the first to erect a saw-mill at the present busy and crowded water privilege at the Chaudiere, and here he remained until 1846, or thereabouts, when he removed to Arnprior and entered on the milling business on a scale of unusual magnitude at that time. He was shrewd, enterprising and successful in his business operations, and speedily amassed considerable, if not immense wealth—of which, let it be stated, he was not chary whenever appealed to on behalf of any good or worthy object, public or private. His magnificent reception of the Prince of Wales and suite at his beautiful seat near Arnprior was an event which will dwell in the minds of all those who were present on the memorable occasion for long and many a day. Mr. McLachlin represented Bytown in the Canadian Assembly during the first Parliament after the union of 1840, and the County of Renfrew, in the same body, from 1861 until his retirement from an active participation in political affairs in 1869. In 1863 he was an unsuccessful candidate for the County of Carleton.—*Ottawa Citizen*.

3. MR. JOHN WALLIS.

Coming to Toronto in the year 1833 when quite a young man, his industrious habits and kind and amiable disposition endeared him to a large number of his fellow citizens. Having been most successful in business as a brewer, in the west end of the city, he amassed a large amount of property, and was often one of the chosen representatives as Alderman for St. Patrick's Ward in the City Council. He was also elected, in the election of 1867, to represent the Western Division in the Local Legislature by a large majority over his then opponent, Mr. Crooks. Always true to his political principles—that of a Liberal Conservative—Mr. Wallis steadily supported the Government throughout the whole of the late Parliament. His kind and amiable manner, together with the many acts of benevolence by which he was known throughout his life, will long be remembered in Toronto.—*Leader*.

VI. Papers on Practical Education.

1. LEARNING WITHOUT TEACHER.

BY HORACE GREELEY.

At least one million young Americans are at this hour seeking or wishing for a better education than they have obtained, or can obtain, from ordinary common schools; many of them write me on the subject, asking me to point out a way whereby they may achieve their end. Some want to pursue a collegiate course, and to run into debt for \$500 or \$1,000 wherewith to pay their way. I cannot help regarding this as a mistake. The ranks of the professions are obviously so crowded, that he who enters them hereafter must expect to give five to ten years to the arduous task of achieving a firm foothold in any of them. He, therefore, who makes the attempt destitute of property and burdened with debt, must fight his battle of life under very great disadvantages and discouragements. True, he may win—let us hope that he will; but the odds are heavily against him. He who does not choose to spend his life working for "dead horse" may well decline to incur a debt which must, at the best, fetter and chafe him, and which it is quite possible he will never be able to repay. Unless a youth be sure that he is rarely and specially qualified for some intellectual pursuit, I would gladly dissuade him from plunging into debt for the cost of a classical education.

"But what shall be done by a moneyless youth athirst for knowledge?"

I would say—Let him choose that branch of productive industry which he prefers and proceed forthwith to master its processes and details. If he likes farming, let him try that; if not, let him select his trade, and bargain with some master of it for a fair opportunity to learn it. Having thus secured Archimedes' desideratum—"a place whereon to stand"—let him settle to his work, resolved to give all his spare hours to thoughtful, diligent study.

I assume that he will, in choosing his place aforesaid, give the preference to one which affords him ready access to good books. If he did not seasonably think of this, let him now look around him to see how and whence his need of books can most easily be supplied. There are not many neighbourhoods in the States north of the Potomac and the Ohio, where good books may not be borrowed by those who appreciate and will not soil them. A few days' inquiry will develop many such; while a village is seldom, and a city never without them. Be the deficiency smaller or greater, he will have to purchase some choice works to supply it; but ten dollars per annum will cover all that he need expend for books.

A course of reading for instruction's sake should begin, I judge, with natural science, chemistry, geology and botany (if by this latter term is indicated the laws of vegetable growth and development), should come first, and each should engross the spare hours of a full year at least. Obtain the best text book of each as a foundation, and read it slowly, thoughtfully to the end; then begin again at the title page and read attentively to the close; if you are not now master of its contents, repeat the process once more. When ever puzzled or uncertain as to what is affirmed, stop and give an hour to a page, if not sooner sure that you have fully caught the author's meaning. When a text book shall thus have been thoroughly mastered, it will have indicated such other works treating of the same science as will be most helpful to you, and these can be read more rapidly in the light of the knowledge already acquired. And, having mastered chemistry, you will find the knowledge thus obtained a key to unlock quickly and easily the treasures of geology and botany.

Geography and astronomy will require far less time, and are, though valuable, less essential than the sciences which contemplate the nature and transmutations of matter.

After science, I would give attention to history. No other department of human knowledge is at once so deeply interesting and so widely instructive. No man ever read half a dozen good histories without having his understanding expanded thereby. Human nature is studied nowhere else to so good advantage as in the works of historians like Hume, Gibbon, Grote, Macaulay, Froude, Bancroft, Michelet, Carlyle, etc., etc. If I were to live merely for enjoyment, I should spend half my waking hours in the company of the great historians. Biography—which is the history of certain individuals—may also be read with equal delight and profit in the lives of the great and the good. Poetry and philosophy belong to a later stage of mental development; but these also help to enlarge and refine the intellect of their devotees.

I know it will be urged that faithful, daily labour is incompatible with the systematic acquisition of knowledge. I answer that my experience does not sustain the assumption. The best years of my life, so far as education is concerned, were those in which I did six fair days' work per week as an apprentice in a country printing establishment. I have never enjoyed opportunities equal to those since I engaged in business for myself, and I do not hope to find equal opportunity for study hereafter.

"But you have not indicated a course of study for a profession."

No; I am not qualified for and have not attempted that. I seek only to show how a diligent, studious youth, who has enjoyed and improved the opportunities afforded by an average common school, may, without incurring debt, continue his education, so that he shall enter upon the responsibilities of manhood a well informed, qualified citizen, fitted to act well his part as an American freeman.

2. PARENTS AND TEACHERS.

Very few know how difficult a thing it is to teach with success. Indeed, with the exception of those (and they are exceedingly rare) who have an intuitive appreciation of the obstacles which lie in the teacher's way, there are scarcely any who give the matter a thought. Yet there is really no employment by which a livelihood may be gained which is so wearing on mind and body, which requires so much tact and patience, so much endurance and perseverance, as that of the instructor of youth. To our conscientious, hard-working teachers too much aid and sympathy and encouragement cannot be accorded. And most especially ought parents to co-operate with them, and lend them their assistance. They ought to know what wearisome drudgery it often is to train the minds of those who are bound to them by the nearest and dearest of ties even for a little while; and, knowing this, they ought to consider how the difficulties which they experience are enhanced in the case of the teacher. He has to deal, not with a few minds but with many. He has to study a great varieties of dispositions and characters. He has to distinguish between appearances and reality, and to get to the core of those natures which it is his aim and duty to

cultivate and develop. For on the right knowledge of the characters with which he has to deal depends, in a great measure, his success.

Now we wish to impress upon such of our readers as are parents that this duty of assisting the teacher by means obviously at their disposal is neglected at the expense of their children's welfare. If they choose to leave the teacher in the dark as to any glaring faults of which they are aware in their children who are under his charge, they make the whole intercourse between him and them one long misunderstanding. The teacher is working with moral material, so to speak, of whose quality he is ignorant, and which, strive as he may, he can but slightly improve—which, in some respects, he may unconsciously injure. How often does an ill feeling arise in the breast of a scholar towards his teacher, whose place might have been very differently occupied had the parents only vouchsafed a word of timely warning! How often is this growing antagonism fostered by the injudicious partisanship which, in all cases, takes it for granted that the complaining pupil is in the right! The mischief done in all our schools, both in city and country, through this really unkind indulgence is almost incalculable. Grudges kindled in this way by the stupid fondness or malignant prejudice of parents often amoulder and blind and fester for long years. A pupil takes offence at some word or admonition or act of discipline. He informs his parents of his grievance. Without inquiry they fix the whole blame on the teacher. The pupil triumphs in his success, but henceforth his days, under a master or a mistress, whom he has been taught to despise, are worse than wasted. Or a boy or girl is deceitful or has some other failing which the teacher endeavours to remove from his pupil's character. The parents are indignant at the very notion of their child being faulty. He is encouraged to continue in the practice of what is destroying his moral life. The teacher is made little of, and his influence set at naught.

We might multiply instances, and give abundant examples of the evil of which we are speaking. Several cases of the kind have of late occurred in our leading schools, to the annoyance of the teachers, to the infinite detriment of the taught, probably to the future sorrow of the parents or guardians concerned. It is time that the real interest of the children, not the mere pettish vanity of either them or their parents, were made the guiding principle in our schools. When those who now obstruct the great work of education in this silly way are dead and forgotten, the children of to-day will have grown up to be a blessing or a curse to the community. Which of the two it is now for all interested to decide?

We repeat that parents ought to co-operate with teachers, knowing, or if they do not know, informing themselves of, the difficulties which they have to overcome in the discharge of their—it is not too much to say—sacred duties. There is need of the utmost candour and mutual confidence and help and sympathy, so that those most concerned, the children themselves, may really derive benefit, and have their minds and characters developed and made strong for the business of life.—*Montreal Gazette.*

Papers on Education in various Countries.

1. THE NEW BRUNSWICK SCHOOL ACT.

A good deal of opposition has been shown to the recently passed School Act in New Brunswick, and the question has been raised of its constitutionality by petitions for its disallowance having been sent to the Federal authorities at Ottawa. To these Sir John A. Macdonald has sent the following reply, under date the 20th January, 1872.—

Numerous petitions to His Excellency the Governor-General from the Roman Catholics of New Brunswick, most respectfully signed, have been received, praying that the Act, cap. 21, entitled "An Act relating to Common Schools," be disallowed.

The grounds upon which this prayer is based are:

1st. That the Act will greatly destroy or greatly diminish the educational privileges which Catholics enjoyed at the time of the passing of the British North America Act, and subsequently.

2nd. That the pecuniary grants hitherto made to the Graded Schools have been taken away, although to these grants Catholics may in most cases be fairly regarded as having a prescriptive right.

Now the Provincial Legislatures have exclusive powers to make laws in relation to education, subject to the provisions of the 93rd clause of the British North America Act. Those provisions apply exclusively to the denominational, separate or dissentient schools; they do not in any way affect or lessen the power of such Provincial Legislatures to pass laws respecting the general educational system of the Province.

The Act complained of is an Act relating to Common Schools, and the Acts repealed by it apply to Parish, Grammar, Superior and Common Schools.

No reference is made in them to separate, dissentient or denominational schools, and the undersigned does not on examination find that any statute of the Province exists establishing such special schools.

It may be that the Act in question may operate unfavourably on the Catholics or on other religious denominations, and if so it is for such religious bodies to appeal to the Provincial Legislature, which has the sole power to grant redress.

As, therefore, the Act applies to the whole school system of New Brunswick, and is not specially applicable to denominational schools the Governor-General has, in the opinion of the undersigned, no right to intervene.

As to the second objection respecting pecuniary grants, those must of course be under the annual supervision of the Legislature, which has the sole power to deal with the public funds, unless by special enactment those funds have been conferred for a specified period by an Act of the Legislature.

2. COMPULSORY EDUCATION IN FRANCE.

The *New York Commercial Advertiser* thus refers to compulsory education in France:—"As a rule, compulsory education is unsuited to the Democratic form of Government, but in a Republic so singular as that of France, it is probably a wise and necessary precaution. The Council General of the Department of the Seine has voted in favour of an educational system not only compulsory, but gratuitous. Evidently impressed with the need of some salutary and effective measure for redeeming the ignorant classes from their notorious degradation, the local rulers of Paris have acted boldly and promptly. It will be remembered by those who studied the significant incidents of the late war, that the newspaper correspondents often alluded to the educational contrast between the soldiers of France and Germany. A very small proportion of the French rank-and-file were able to read and write—two accomplishments in which the German is proficient. The ignorance of the lower classes of the French—the classes whence the conscription recruits the army—has long been a reproach, and its inevitable result was the lack of intelligence, and the tendency to violent outbreaks, which made the great body of the French the willing followers of usurpers and the tools of unscrupulous men in civil and military movements. The Republic, speaking through its capital, now proposes to initiate the system of compulsory education, and the omen is good. An educated people only can conduct a nation to success, and this great secret of the German successes has been caught at last by the intelligent Council of Paris."

3. COLLEGE AT CONSTANTINOPLE.

The Turkish authorities are certainly becoming more liberal in their ideas, when they permit an "infidel" college to be established at Constantinople. This college which has just been opened, stands on what is acknowledged to be the finest site on the Bosphorus, 260 feet above the water. At this place Darius crossed, when he invaded Scythia, B.C. 510. Nearly one hundred boys lodge in the building, and there are thirty day scholars. The institution is called "Roberts College," and was chartered several years ago by the Legislature of New York State, the means for its construction being furnished by C. R. Roberts, of New York. The property in the institution amounts already to from \$130,000 to \$140,000. The design is to give an education equal to the best colleges of America, under Christian influences. Six American and seven or eight native teachers are attached to the college.

CLASSICAL EDUCATION IN ENGLAND.—The *Westminster Review* in an article on the educational system in classical schools, says:—"Is it not a fact that thousands upon thousands of English boys spend a considerable portion of four, five, or six days a week for forty weeks in every year, from the time they are six or seven years old till eighteen or nineteen, or even more, in learning Latin, and at the end of the time cannot construe Cicero or Virgil with any approach to ease or accuracy: cannot at any rate read even an easy Latin book with such facility as to think of taking one up to read for their own amusement? Everybody knows that it is so. Every one, who has had what is called, with unconscious irony, 'a liberal education' (meaning apparently an education on which the expenditure has been liberal), knows that the great majority of his acquaintances are each a living proof of the failure of schools and universities to teach."

VIII. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for DECEMBER, 1871.

OBSERVERS:—Pembroke—James Smith, Esq., M.A.; Cornwall—James H. Coyne, Esq., B.A.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. A. O'Brien, Esq., M.A.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—A. Macallum, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., M.A.; Windsor—J. Johnston, Esq., B.A.

BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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		7 A.M.	1 P.M.	9 P.M.	MEAN.	MEAN.	Monthly.	Monthly.	Monthly.	Monthly.	Monthly.	7 A.M.	1 P.M.	9 P.M.	MEAN.	MEAN.	Mean Range.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	Least.	Greatest.	Mean Range.	Least.	Date.	Reading.	Date.	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Approximation. a On Lake Simcoe e Near Lake Huron. f On St. Lawrence. g On Lake Ontario. h On the Ottawa River. i Close to Lake Erie. m On the Detroit River. n Inland Towns.

Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

REMARKS.

Pembroke.—On 23rd, thunder with rain; 23rd, wind storm. Snow on 3rd—8th, 10th—14th, 16th—18th, 21st, 23rd, 25th—27th, 29th—31st. CORNWALL.—On 23rd, wind storm. Snow on 7th, 8th, 13th, 18th, 14th. Rain, 23rd.

BARIE.—On 23rd, violent storm of wind; thunder and lightning with rain. Snow on 1st, 4th, 5th, 7th—15th, 18th, 19th, 22nd, 25th. Rain, 23rd, 30th.

PETERBOROUGH.—From 9 p.m., 20th, till 10 a.m., 21st, the coldest

On 23rd, and rose to 29.334, 9 a.m. 24th. Temperature rose from 15° 7, 9 p.m. on 22nd, to 33° 7 at 9 p.m. 23rd. On 23rd, at 2 p.m., two loud claps of thunder—no lightning; about 4 p.m. the wind blew in the course of half an hour from almost every direction, but about 5 o'clock it set in steadily from S., blowing with great force until about 11, when it changed to S. and S.W., blowing with great fury most of the night; considerable injury sustained by buildings. There was also a wind storm on 4th and 5th. Snow 1st, 4th, 6th—8th, 18th—20th, 22nd, 27th, 29th. Rain 4th, 23rd, 30th, 31st. Month generally cold and barometer falling uninterrupted. Sleighting uninterrupted. BELLEVILLE.—Barometer fell from 30.002, 9 p.m. 22nd, to 29.044, 9

11th-13th, 16th-20th, 22nd, 23rd, 27th, 28th. Rain 4th, 23rd, 31st. River Moira very low.

GODERICH.—Wind storm, 20th; and with lightning, thunder, and rain, 23rd. Snow 1st-3rd, 5th-8th, 11th-22nd, 26th. Rain, 23rd, 30th.

STRAITFORD.—On 23rd, lightning and thunder, with rain. Wind storms 4th-7th, 19th, 20th, 22nd, 23rd, 27th. Fog, 31st. Snow, 1st, 4th-9th, 13th, 14th, 16th, 18th, 19th, 20th, 22nd, 26th, 27th. Rain, 23rd, 30th, 31st. The difference of mean temperature for December, from the average of 10 years, is $-7^{\circ}03$.

HAMILTON.—On 23rd, lightning and thunder, with hail and rain. Wind storms 2nd, 4th-9th, 20th, 23rd, 27th, 28th. Fog 31st, most dense. Snow 4th-7th, 12th, 15th, 18th, 22nd. Rain 4th, 7th, 23rd, 30th, 31st. The month, like its predecessors, has been very dry, storms of wind have been prevalent, and on the evening of the 23rd the storm approached the nature of a hurricane,—the wind rose to 6, uprooting trees, uncovering houses, throwing down the walls of others in course of erection, and injuring several persons. In the forenoon of the same day a rare combination of elements in storm,—lightning, thunder, hail and rain. Thunder first heard at 11.25 a.m., lightning and thunder seen and heard at 11.40, followed in a minute or so by hail for a couple of minutes, and then rain began to fall at 11.50, and continued in the afternoon. On the 21st the degree of cold went as low as $-18^{\circ}0$, on the 23rd the temperature rose to $54^{\circ}8$, a range of 73° in some sixty hours. This was accompanied by a great fall of barometer, '808 in 24 hours, the greatest during the year except on 17th February, when it amounted to '960, and on both occasions violent storms ensued. [Mr. Macallum, who has been Observer at this station since May, 1858, now transfers the work to Mr. Buch. Mr. Macallum has been a very careful Observer, and his Reports are full and satisfactory.]

SIMCOE.—On 23rd, lightning and thunder, with rain, at 11 a.m. 25th, at 9 p.m., an arc completely spanned the northern part of the heavens from W. to E., it was about 3° in breadth, and about 23° above N. horizon. Wind storms, 4th to 9th, 23rd. Fog, 31st. Snow, 4th to 20th, 22nd, 26th, 27th. Rain, 4th, 7th, 23rd, 30th, 31st. Weather generally threatening, dark, gloomy and stormy. Storms on 4th, 7th, and 23rd—especially the latter, very disastrous to shipping as well as on land, and the extreme cold of 20th and 21st resulted in casualties which in a large number of cases terminated fatally. Disease of the throat and lungs very prevalent, and frequently fatal. Wood high; vegetables scarce and dear.

WINDSOR.—On 4th, hail. 23rd, thunder, with rain; rainbow; lunar halo. 27th, lunar halo. Wind storms, 4th, 6th, 8th, 23rd, 27th. Fog, 30th. Snow, 3rd, 4th, 6th, 11th, 13th, 18th, 19th, 21st, 22nd, 25th, 26th. Rain, 22nd, 23rd, 31st. Navigation of the Detroit river closed on the 4th.

IX. Miscellaneous.

1. OPEN THE DOOR FOR THE CHILDREN.

Open the door for the children,
Tenderly gather them in;
In from the highways and hedges,
In from the places of sin.
Some are so young and so helpless,
Some are so hungry and cold;
Open the door for the children,
Gather them into the fold!

Open the door for the children;
See they are coming in throngs;
Bid them sit down to the banquet;
Teach them your beautiful songs!
Pray you the Father to bless them,
Pray you that grace may be given;
Open the door to the children,
"Of such is the kingdom of heaven!"

Open the door for the children;
Take the dear lambs by the hand;
Point them to truth and to goodness,
Send them to Canaan's land.
Some are so young and so helpless,
Some are so hungry and cold;
Open the door for the children,
Gather them into the fold.

2. MISS MACPHERSON'S CARE FOR "LITTLE WANDERERS."

After waiting on the Lord for guidance, and seeking from Him the heavenly wisdom that teacheth all things, Miss Macpherson resolved, with His help, to try and solve a problem which has interested and puzzled so many of our philanthropists—viz., How can we change our untaught and uncared-for little wanderers into useful and independent members of society? by herself taking a hundred boys, then crowding the mission at home, bringing them across the Atlantic, and placing them in homes on the Canadian shore.

Since May, 1870, how much has been accomplished? Six detachments have followed the first hundred, and now above 800 claim our prayers and interest in this new land of their adoption. A threefold good is thus accomplished. Benefit to the old country in relieving it from those who, having no power to help themselves, must inevitably have become a burden, and ere long, inmates of our

workhouses or our prisons. A great advantage to the Canadians, in a country where want of labour to cultivate their broad acres is severely felt, and who eagerly seek for one of our little ones to train up as their own and in time to become a valuable assistant.

But the greatest benefit of all is to the children themselves, taken sometimes from homes of pinching want and misery, become such from a father's failure or death, or found alone on London streets—a loneliness more forlorn and intense than even among Canadian backwoods; or, more sad and hopeless still, children of a drunkard's home sent out to beg or steal, not only for daily bread, but the wherewithal to supply an unnatural parent's thirst for drink.

It does, indeed, require us to see both sides of the Atlantic ere we can fully realize the benefit accruing to these children by being placed in a family, with individual care and love bestowed upon them, carefully trained in Canadian farm labour, and with the prospect of honourable independence before them.—From an article in the *New Dominion Monthly* for January.

NOTE.—We greatly regret to observe that "Marchmont," Miss Macpherson's Home for these "little wanderers" at Belleville was accidentally destroyed by fire, and one little fellow perished in the flames. Large sums have been collected through the instrumentality of the Hon. Billa Flint, to rebuild the Home.

X. Short Critical Notices of Books.

—THE CANADIAN MONTHLY AND NATIONAL REVIEW FOR JANUARY AND FEBRUARY, 1872.—Toronto: Adam, Stevenson & Co.—The history of Canadian Magazine enterprise is both painful and interesting. It is interesting as illustrating a yearning after nationality, a desire to find some more dignified and permanent means, than that of newspapers, of giving expression to the "sober second thoughts," from a Canadian stand point, of literary men and writers among us, on the questions of the day. The painful feature of the case is the utter failure of nine out of every ten of the numerous magazine enterprises which have been set on foot. The cause of failure has doubtless been asked and answered satisfactorily by every new magazine aspirant for literary and financial success, and yet the same failure has followed each successive attempt. The cause of failure in each individual case has no doubt been various. Apart from the purely financial cause of failure, and nearly all may be summed up in that one, we think the literary cause has been patent to most observers. In nearly every case there has been a sad falling off in the literary tone and spirit of the magazine, until it became the mere reprinter of tales or stories of little interest and value. The topics of the day, if discussed at all, have lacked that suitable elevation of thought, style or sentiment which gives permanence and value to utterances of the kind. The projectors of this magazine seem to have been fully alive to these difficulties and causes of failure. In their prospectus they therefore declare that "Politics will be treated with the aim of infusing as much as possible of the historical and philosophical spirit into the popular discussion of political questions." They further say that "religious questions, if they form the subject of any papers, will be treated with a similar aim." With a view to still further guard the writers of the new magazine from degenerating into party agents, the conductors, in their introductory announcement, state that "the utmost latitude will be allowed to contributors in the expression of opinion, as well as in the choice of subjects; but the Magazine is not open to party politics or to party theology; nor will anything be admitted which can give just offence to any portion of the community. Having a national object in view, the managers of the Magazine will sincerely endeavour to preserve, in all its departments, a tone beneficial to the national character and worthy of the nation." We will now examine the two numbers of the Magazine which have reached us to see how far these pledges have been realized. We shall first take the "Treaty of Washington" paper by Mr. Lindsay, in the January number. This paper deals with a many-sided question, not merely one between the present Dominion Government and Her Majesty's opposition in Parliament, but one between Canada and England, Canada and the United States, and the maritime and inland Provinces of the Dominion. The article on the whole fairly states the question as between each of these parties, and is decidedly

Canadian and patriotic in its tone. "An Historical Night in the old Canadian Parliament," by Mr. Watson, is an interesting statement of facts, written apparently without party bias. In the February number we have "The Canadian Census of 1871," by Mr. Harvey. This paper, though written in a good spirit, is somewhat premature in its appearance, and discusses the question *ex parte*. Mr. Tache has published a rejoinder to it, in which he disputes the accuracy of the statement that the census of 1861 was taken in one day, or that it was taken on the *de facto* principle, as alleged, or on the *de jure* principle, which was adopted in taking the census of 1871. He also combats various other statements of the writer. "The Recent Struggle in the Parliament of Ontario" is a judicious and impartial sketch of much interest. The writer has well thought fairly put the case for and against the combatants in the struggle, and has, in our opinion, correctly pointed out the mistakes which arose, as much from the newness of the House as from the novelty of the situation, and other causes. The literary articles in both numbers are generally speaking good, and some are of special excellence. There is one expression on page 187, which we think open to misapprehension, if not objection. The writer says, "while the Gospel is *still* sacred, &c." The word "*still*" which we have italicized, would seem to indicate a coming time when the Gospel would not continue to be "sacred in the eyes of millions." This we trust was not the meaning of the writer. We heartily wish the magazine great success, and trust that the enterprising publishers will persevere in their patriotic and laudable efforts to produce a truly national periodical, calm and philosophic in its discussions of public questions, instructive and entertaining in its literary articles, and in its general tone, character, and objects, truly "racy of the soil."

—THE DOMINION MONTHLY.—We have from time to time noticed the appearance of this valuable and interesting magazine, and have frequently made extracts from it. "Miss Macpherson's work among the little ones," in the January number, is a most interesting sketch. Which we insert in this number of our Journal. We trust the "Monthly" will have a wide circulation in the "New Dominion."

—ART OF TEACHING SCHOOL.—Philadelphia: J. M. Stoddart & Co., Toronto: Adam, Stevenson & Co. This seems an excellent "Manual of Suggestions." Hon. H. O. Hickok, late Superintendent of the State of Pennsylvania, whom we know to be a man of sound judgment and experience, thus speaks of the book:—"It is bold, (and in a good sense, radical and revolutionary; striking out with dogmatic, but, in the main, well-directed sagacity and independence, for a sounder educational policy and rational subjects and methods of instruction, and is therefore conservative, in the truest, best meaning of that term. Its publication will be hailed with infinite satisfaction by many clear-sighted and conscientious teachers in all parts of the country, who are painfully conscious that more and better should and can be accomplished in an elementary common school course, if fewer husks and less dead-wood and weary routine were imposed upon them by the school authorities, and greater intellectual activity and mental freedom permitted for themselves and their pupils. It will doubtless be very unwelcome to mere 'school-keepers,' whose attainments and experience extend little, if any, beyond the plodding tow-path of memorized recitations from the printed page."

*NOTE.—Since the above was written, we have noticed that the publishers of the magazine have appended to the 3rd No. a petty attack on the Educational Depository, and even threatened the Council of Public Instruction, with an addition of "one or more members of the *Book Trade*, of business capacity, *disinterested mercenarily*," etc. The Department is ready and willing at any time to meet a fair and honourable inquiry into its proceedings; but that the publishers of a magazine of the character and pretensions of the one we have just noticed should descend to slander and vilification to promote their own "disinterested" objects of trade is painful in the extreme. When the proper time comes we shall meet these maligners and show, at least to the satisfaction of the public, that the real trouble with such "disinterested" gentlemen is the low prices of the books in the Depository which is a standing source of trouble, irritation and annoyance to them. (See page 18.)

—CUTTER'S SECOND BOOK ON ANATOMY.—Philadelphia: J. B. Lipincott & Co. Toronto: Adam, Stevenson & Co. This is a new edition of a popular book by Dr. Cutter, whose "First Lessons" have been approved for use in High Schools of the Province. This would be a valuable book of reference for teachers, who may be preparing for examination as First and Second-Class Public School Teachers. The First Book is prescribed for them, but the perusal of this book would greatly aid them in their preparation.

XI Departmental Notices.

NEW SCHOOL MANUAL.

In answer to continual inquiries on the subject of a new School Manual we would say, that an Act to the following effect having recently passed the Legislature, it is not thought desirable to publish a School Manual at present, especially as such a Manual ought to include in it the official regulations to which the recent Act refers. The provisions of this Act are that:—

"The Lieutenant-Governor shall have power [until the end of the next ensuing session of the Legislature] to cause inquiry to be made into the working of any rules, regulations, or instructions which have been, or may be made or issued by the Council of Public Instruction, or by the Chief Superintendent of Education, and to abrogate, suspend, or modify any such rules, regulations, or instructions."

We would state that the whole of the School Law and the general official regulations will be found in this Journal for May and June, 1871. Copies of these journals, when published, were sent by mail and addressed to each school corporation in Ontario. An extra number of copies was published on Depository account. The two numbers can, therefore, be sent by mail from the Depository, free of postage, on receipt of twenty-five cents.

"ADEQUATE SCHOOL ACCOMMODATIONS."

In answer to numerous inquiries as to the law relating to school accommodation, we desire to state that the second section of the School Act of 1871 declares that:—

"Each school corporation (in a city, town, village or rural school section) shall provide adequate accommodations for all the children of school age (from five to sixteen years, resident) in their school division or municipality."

The regulations which define what "adequate school accommodations" are being only recommendatory at present, each trustee corporation must, in the mean time, exercise a wise discretion and judgment in the matter. These regulations suggest a medium or minimum amount of school accommodation to be provided, as compared with the law and regulations on the subject in other countries. Although the law, as quoted above, is *imperative*, yet inspectors will exercise a judicious discrimination in enforcing it. In no case should it be enforced without a report on the facts being sent to the Department. A reasonable time should, in all cases, be given, and the ability and circumstances of each school concerned should be taken into account.

SCHOOL LAW LECTURES.—Part I.

The Law and Official Regulations relating to Public School Trustees in Rural Sections—Public School Meetings—Selection of School Sites—Erection of School Houses—Levying Rates—Collectors—School Auditors—Arbitrations—Awards—Non-residents—Public School Teachers—Relation of Inspectors to Teachers—Duties of Pupils—Terms and Vacations—Examination of Teachers—Superannuation Fund, &c.,

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No. 3.

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CHANGE OF TEXT BOOKS IN THE PUBLIC SCHOOLS.

So much misapprehension has prevailed in regard to the change of Text Books in our Public Schools, that the following information on the subject has been prepared for insertion in this Journal. It will be seen, from the facts here given, how entirely mistaken parties have been who have complained of the so called frequent change of Text Books. The changes have been made in most cases but once or twice in Twenty-five Years. Changes have been twice made in the Text Books on Arithmetic and Grammar at the time specified, for the reasons given below.

LIST OF NATIONAL AND OTHER SCHOOL BOOKS FORMERLY SANCTIONED BY THE COUNCIL OF PUBLIC INSTRUCTION FOR USE IN THE COMMON SCHOOLS OF UPPER CANADA.

Name of Book and when sanctioned.

- First Book of Lessons.*
Second do.
Sequel to Second Book.
Third Book of Lessons.
Fourth do.
Fifth do. for Boys.
Sixth, or Reading Book for Girls' School.
Introduction to the Art of Reading.
Spelling Book Superseded (Sullivan's.)
English Grammar.
Key to English Grammar.
Robertson's Principles of Grammar (for Teachers.)
Lennie's English Grammar.
Kirkham's English Grammar.
National Epitome of Geographical Knowledge.
Do. Compendium of do.
**Geography Generalized, (Sullivan's.)*
Introduction to Geography and History, (Sullivan's.)
Geography and History of the British Colonies. (Hodgins.)
 1857.

1846.

1846.

Name of Book and when sanctioned.

- Sangster's First National Arithmetic (Dec. Currency.)*
Key to Sangster's First National Arithmetic.
National Arithmetic in Theory and Practice. 1846.
Sangster's National Arithmetic in the Decimal Currency. 1860.
**Sangster's Natural Philosophy.*
**National Book-Keeping. { 1846.*
**Key to do. {*
Colenso's Algebra, Part I.
National Elements of Geometry.
National Mensuration.
Appendix to ditto.
National Scripture Lessons—Old and New Testament.
Do. Sacred Poetry.
Do. Lessons on the Truth of Christianity.
Hullah's Vocal Music.
National set of Table Lessons—Arithmetic.
Do. do. do. —Spelling and Reading.
Do. do. do. —Copy Lines.
 Also the National Maps, Maps of Canada and of British America, &c. 1846-1853.

1860.

1860.

1846.

1846.

The italics indicate those books which have been superseded by the new series. The books marked by an asterisk are still used (temporarily) by teachers in preparing themselves for examination.

Subjoined is a complete list of the Books at present authorized for Public Schools, from which will readily be perceived all the changes that have been made. The dates at which the Books at present in use were severally introduced are appended.

The Irish National Arithmetics in use since 1846 were decimalized and adapted in 1860; these books were afterwards superseded by two others, in 1869-70. No Grammars were ever sanctioned for use in the Public Schools except Lennie's, Kirkham's, the National, and Robertson's (for teachers.) These four books were superseded by two in 1868. No other Grammar was ever authorized for use in the Public Schools of Ontario, although others may have been used in them without authority and even contrary to law. The exclusion of these unauthorized books has, no doubt, been mistaken for and confounded with the recommendation by the Council of Public Instruction of other superior ones in their place. The Council is, however, in no way responsible for the inconvenience caused to trustees and school authorities who persisted in using unauthorized books contrary to law.

LIST OF TEXT BOOKS AUTHORIZED FOR USE IN THE PUBLIC SCHOOLS.

NOTE.—In the following list, some books are *prescribed*, and others are *recommended*. The use of the books *recommended* is discretionary with the respective Public School Boards.

I. ENGLISH.

TEXT BOOKS PRESCRIBED :

The Canadian National Series of Reading Books. (Authorized edition)	1867	Old National Readers.
The Spelling Book, A Companion to the Readers. (Authorized edition)	1868	Spelling Book Superseded.
Miller's Analytical and Practical English Grammar. (Authorized edition)	1868	National, Kirkham's, Lennie's, Bullion's, (for High Schools), and Robertson's (for teachers.)
An English Grammar for Junior Classes. By the Rev. H. W. Davies, D.D. (Authorized edition)		
A History of English Literature, in a series of Biographical Sketches. By William Francis Collier, LL.D.	1867	Spalding's.

NOTE.—Some of these Text Books, though used, were never authorized.

II. ARITHMETIC AND MATHEMATICS.

TEXT BOOKS PRESCRIBED :

Advanced Arithmetic for Canadian Schools. By Barnard Smith, M.A., and Archibald McMurchy, M.A. (Authorized edition).	1870	National and Sangster's.
Elementary Arithmetic for Canadian Schools. By the Rev. Barnard Smith, M.A., and Archibald McMurchy, M.A. (Authorized edition).		
Elements of Algebra. Todhunter's or Sangster's	1869	Brydges and Colenso.
Euclid's Elements of Geometry. Potts' or Todhunter's	1868	National.

III. GEOGRAPHY AND HISTORY.

TEXT BOOKS PRESCRIBED :

Lovell's General Geography. By J. George Hodgins, LL.D. Barrister at Law. (Authorized edition).	1865	National, Sullivan's and Morse's. (The latter only permitted.)
Easy Lessons in General Geography. By ditto. (Authorized edition).		
A School History of the British Empire. By William Francis Collier, LL.D.	1867	White's, (for High School.)
A History of Canada and of the other British Provinces of North America. By J. George Hodgins, LL.D., Barrister at Law....	1865	Hodgins' Geography and History of British America, &c.
Outlines of General History. By William Francis Collier, LL.D.	1868	White's, (for High School.)
TEXT BOOKS RECOMMENDED :		
The Great Events of History. By William Francis Collier, LL.D.	1868	None, except in the old National Readers.

IV. PHYSICAL SCIENCE.

TEXT BOOKS PRESCRIBED : (See note above.)

Rudimentary Mechanics. By Charles Tomlinson. Portions relative to the mechanical powers.	1871	Sangster's Natural Philosophy, and in the old National
The Animal Kingdom. By Ellis A. Davidson, (22 cts.)	1871	None before.†
How Plants Grow : A Simple Introduction to Botany, with Popular Flora. By Asa Gray, M.D.		"

V. MISCELLANEOUS.

TEXT BOOKS PRESCRIBED :

First Lessons in Agriculture. By Rev. Dr. Ryerson	1870	None before.
Our Bodies.* By Ellis A. Davidson, (22 cts.)	1871	"†
Easy Lessons on Reasoning. By Archbishop Whately	1871	"
The Dominion Accountant. By W. R. Orr. (Authorized edition.) ..	1872	National.

TEXT BOOKS RECOMMENDED : (See note above.)

First Lessons in Christian Morals. By Rev. Egerton Ryerson, D.D., LL.D.	1871	National in part.
Elements of Moral Science, by Rev. Francis Wayland, D.D., abridged by the author.	1872	Do.
A Comprehensive System of Book-Keeping, by Single and Double Entry. By Thomas R. Johnson	1867	National.
Field Exercises and Evolutions of Infantry. Published by authority. Pocket edition (for Squad and Company Drill)	1867	None before.
The Modern Gymnast. By Charles Spencer	1867	"
A Manual of Vocal Music. By John Hullah		No change.
Three Part Songs. By H. F. Sefton. (Authorized edition)	1869	None before.
National Mensuration.		No change.
Scripture Lessons—Old and New Testaments. (National).		"
Lessons on the Truth of Christianity. (National).		"
Right Lines in their Right Places. By Ellis A. Davidson, (22 cts.) ..	1871	None before.
Teacher's Guide, and Bartholomew's Primary School Drawing Cards. By Miss J. H. Stickney	1871	None before.
The Drawing Book for the Dominion of Canada, in Progressive Studies, seven numbers	1871	"

* The following little works are also highly recommended (1871) for perusal, both by Teachers and Pupils, viz. :—"The House I live in," by T. C. Girlin, Surgeon, (Longmans) and "Our Earthly House and its Builder," (Religious Tract Society.) Cutter's "First Book on Anatomy, Physiology and Hygiene, for Grammar Schools and Families," is the prescribed book for High Schools, and may be used by the Public Schools if desired.

† Peck's *Gaunt's Natural Philosophy*, and Hooker's *Smaller Physiology* were authorized for Grammar Schools in 1867, and were *allowed* to be used in Public Schools, but only if desired.

William Hermes' Drawing Instructor. For advanced students 1871 None before.
 Writing Copy Books, used in the Normal and Model Schools for
 Ontario. In Six Parts..... 1871 National.

VI. FRENCH AND GERMAN SCHOOLS.

The following books, approved by the whole Committee of the Council of Public Instruction for Quebec, are also sanctioned for use by French Pupils in Public Schools of this Province in which there are both Protestant and Roman Catholic Pupils.

Cours d'Arithmétique Commerciale. (Senécal, Montreal)	1868 None before.
Abrégé de la Géographie Moderne. (Société d'Éducation de Québec)	
La Géographie Moderne. De M. Holmes, M.A.....	
Grammaire pratique de la langue Anglaise. (Par P. Saddler, Paris)	
Traité Élémentaire d'Arithmétique. (Par F. X. Toussaint).....	
Le Premier Livre de l'Enfance. (De Poitevin).....	
Cours de Versions Anglaises. (Par P. Saddler, Paris):	1868
Grammaire Française Élémentaire. (Par F. P. B.).....	

For German Schools, Klotz's German Grammar is sanctioned.....

BOOKS "PRESCRIBED," AND THOSE "RECOMMENDED."

It will be seen by the foregoing lists, that some books are "*prescribed*" for use in the Public Schools, whilst others are only "*recommended*." The use of the Books "*recommended*" is entirely *discretionary* with the respective Public School corporations. Among the latter class are the "*First Lessons in Christian Morals*," and some other books. (See list.)

"AUTHORIZED EDITIONS" OF BOOKS, THE PROPERTY OF THE COUNCIL.

The Copyright of all the books in the foregoing lists, marked "*Authorized Edition*," is vested in the Council of Public Instruction, (in the name of the Chief Superintendent.) These books may be reprinted by any publisher upon complying with the regulations of the Council on the subject.

I. School Law Decisions.

THE CHIEF SUPERINTENDENT OF EDUCATION
 FOR UPPER CANADA (NOW ONTARIO), APPELLANT; IN THE
 MATTER BETWEEN WILLIAM ANSON SHOREY, PLAINTIFF,
 AND JOSEPH THRASHER, THOMAS DAVEY, AND ALBERT
 JONES, DEFENDANTS.

School Sections—Boundaries of—Construction of By-law—Map.

The question being whether the plaintiff's lot, 23 in the 8th Concession of Thurlow, was within School section 16, a by-law defining the limits of sections in the Township was proved, which declared the section to be composed, among other lots, of "50 acres of the east side of lot No. 16, all of No. 17, S. $\frac{1}{4}$ of No. 18, all of 19, 20, 21, 22, 23 and 24," (not giving the concession), "excepting such portion of last mentioned lots as included in sections 18 and 19." Section 18, by the same by-law, was made to comprise parts of lots 16, 18, 20, 21, and 22, in the 8th concession; and section 19 the N. $\frac{1}{4}$ of 24 in the same concession. *Held*, that the whole by-law taken together sufficiently shewed the plaintiff's lot to be in section 16.

Held, also, that the map prepared by the Township Clerk, under section 49 of the School Act, C. S. U. C., ch. 64, shewing the division of the Township into sections, was admissible as evidence.

This was an appeal by the Chief Superintendent of Education against a decision of the Judge of the Fifth Division Court of the County of Hastings.

An action of trespass was brought by Shorey against Thrasher and others in the Division Court, to recover damages for an alleged wrongful seizure and sale of a cow of the plaintiff by the defendants.

The case was tried in May last, before the Judge of the County Court of Hastings.

The defendants' contention at the trial was, that they were the trustees of School Section No. 16 in the Township of Thurlow: that the plaintiff was a ratepayer within that school section, and refused to pay his school tax, whereupon they issued a warrant to levy the amount, under which warrant the cow in question was seized, &c. The plaintiff contended that his lot, No. 23 in the eighth concession, was not shewn to be within the limits of school section 16.

In order to shew the limits of 16, the defendants put in a by-law No. 28 of the Municipal Council of Thurlow. "For the better defining and establishing of the boundaries of school sections in the Township of Thurlow," passed on the 22nd of December, 1859, which by-law defined and described the limits of all the school sections in and embracing the whole township. A map was also produced, in reference to which the Clerk of

the Municipal Council swore, that he found it filed among the papers of the Council when he was appointed clerk, and that it so came into his hands as such clerk. He further said that he first saw this map in 1860, when he was a member of the Council. By that map, he stated that the plaintiff's lot, 23 in the eighth concession, was in section 16. The map, which was produced at the argument, had all the various school sections accurately laid down on a scale, the limits of each section being distinguished by a different colour from the adjoining sections, and bore date, Thurlow, December, 1859, and was entitled "Plan of the Township of Thurlow, shewing the boundary of the several school sections in said Township, correctly laid down by a scale of 40 chains to an inch, by John Emerson, Provincial Land Surveyor." A reference to this map alone shewed the plaintiff's lot within the limits of section 16.

By the 16th clause of the by-law the limits of section 16 were set out as follows: "School section No. 16 to be composed of that part of lots Nos. 11, 12, 13, 14, 15, 16, and west part of No. 17, lying north of the river, in the sixth concession; all of lots Nos. 14, 15, 16, 17, north half of 18 and 19, in the seventh concession; also 50 acres of the east side of lot No. 16, all of No. 17, south half of No. 18, all of 19, 20, 21, 22, 23, and 24, excepting such portion of last mentioned lots as included in sections Nos. 18 and 19."

The learned Judge was of opinion that the plaintiff's lot was not shewn to be in the section, and he decided on that ground that the plaintiff was entitled to recover, and he ordered a verdict for \$28. Against that decision this appeal was brought, under Consol. Stat. U.C., chap. 64, secs. 108-113.

The grounds of the appeal were, that it sufficiently appears from the by-law of the Township Council, passed on the 22nd of December, 1859, and the Township map, dated December, 1859, that lot 23 in the eighth concession of Thurlow, on which the plaintiff resided, is within the boundaries of school section 16 of said Township, and that the plaintiff as owner or occupier thereof is liable for the school rates levied by the trustee corporation of said section. 2. That the plaintiff acted under the by-law as trustee of the school section, and signed returns relating to the same as such trustees, and is bound by his acts and declarations then made. 3. That the rate in question having been levied by a trustee corporation *de facto*, cannot be recovered back in this action.

Two other cases were appealed of a similar character. *Latta v. The same defendants*: and *Graham, v. The same defendants*, the grounds of appeal being the same, the only difference being in the Nos. of lots, viz: in *Latta's* case, the south half of lot 22 in the eighth concession; and in *Graham's* case, the south half of 24 in the eighth concession of Thurlow.

T. Hodgins, for the Chief Superintendent of Education in *Shorey's* and *Latta's* cases, cited *Simmons* and *the Corporation of Chatham*, 21 U.C.R. 75; *Gill v. Jackson et al.*, 14 U.C.R. 127; *Dwarris* on Statutes, 628. *Henderson* (of Belleville) for the Chief Superintendent of Education in *Graham's* case.

Diamond, for the respondents, cited *Haacke v. The Municipality of Markham*, 17 U.C.R. 562; *McGregor v. Pratt*, 6 C. P. 173.

The facts of the case and the arguments of counsel sufficiently appear in the judgment.

MORRISON, J., delivered the judgment of the Court.

The principal question raised in these three cases is, whether the respective lots in which the several plaintiffs lived are within the limits of school section 16.

It was contended by the respondents that to the by-law alone we must look to ascertain the boundaries of the section in question, and it was further argued that the by-law did not shew that the plaintiff's lot, 23 in the eighth concession, formed part of school section 16, and that the learned Judge below was right in so holding.

Assuming that the map could not be looked at to throw any light on the by-law, we think there is sufficient stated in the by-law to shew that the plaintiff's lot was within the limits of section 16. It is quite apparent that the person who drew or engrossed the by-law omitted to insert the words "in the eighth concession," after and between the figures 24 and the words of exception at the end of the 16th clause, viz.: "excepting such portions of last mentioned lots as included in sections 18 and 19."

Upon examination of the clauses defining sections 18 and 19 in connection with clause 16, the effect of the omission of the number of the concession may be avoided, and the limits of the 16th section and the omitted concession intelligibly ascertained. Clause 16 of the by-law declares that the 16th school section consists of certain lots in certain concessions, and also 50 acres on the east side of lot 16, &c., omitting the concession, excepting, &c., included in sections 18 and 19. Clauses 18 and 19 of the by-law describe sections 18 and 19: that of 18 to consist of, with other lots, 150 acres of the west side of No. 16, north half of 18, certain portions of lots 20, 21, 22, in the eighth concession; and in section 19 is included the north half of 24 in the same concession. It seems to me clear that, as we have first to ascertain what lots are included in sections 18 and 19 to determine a portion of section 16, and we find included in 18 150 acres of the west side of 16, north half of 18, parts of 20, 21, 22, passing over whole lots 17, 19, and 23, all in the eighth concession, and in section 19 part of 24; and as forming part of section 16, we find the corresponding portions of 16, 18, and also portions of the other lots mentioned, and as these were the only lots distinguished by like numbers in 18 and 19, and described as being in the eighth concession, and are the only lots by numbers to which section 16 could have any relation or be connected with in those sections, there can be little doubt what lots are within section 16, and that the lots in question were intended for and are lots in the eighth concession. If the 16th section stood alone, without any reference to sections 18 and 19, it would have been uncertain, but the reference to the 18th and 19th sections is a key to its meaning, and with the aid of a plan of the township, without any sections delineated on it, this section 16 would be clearly made out and distinguished as including within it the lots contended for by the appellants.

We are therefore of opinion that the lots in question are sufficiently shewn by the by-law itself to be within school section 16, and that the appeal upon that ground should be allowed.

With regard to the map produced from the clerk's office, it is shewn that it came from the proper custody, and that it is the map which the 49th section of the School Act, Consol. Stat. U. C. ch. 64, requires the township clerk to prepare in duplicate for the use of the county council and the township clerk's office, and in our opinion it ought to be received as *prima facie* evidence as shewing the limits of the various school divisions. The only object of having such a map prepared and kept as enjoined by the statute, is to afford the municipalities, trustees, and all parties interested the means of ascertaining and knowing what lots and portions of lots are within the respective sections, and to enable the assessor to perform the duties cast upon him by the 33rd section of the School Act, of returning the lands of any person situate within the limits of two or more school sections separately on the roll according to the division of the school sections. The preparation of the map is a statutable duty imposed on the clerk. The map becomes a public document openly and publicly kept and used, and is entitled to confidence as such, and to be received as *prima facie* evidence of what it purports to shew.

The respondent's counsel contended that, assuming that the learned Judge erroneously decided that it did not appear that the lands were within section 16, that still the plaintiff was entitled to

recover, on the grounds that the trustees were not duly elected, and also that the warrant was bad and unauthorized. The learned Judge below gave no judgment on these points. We are unable to see in what respect the election was invalid or the warrant defective, or void. On looking carefully over the evidence we find that at the usual annual meeting in January, 1867, defendant Thrasher was elected a trustee, in 1868 Jones was elected, and in 1869 one Leavitt was elected who declined to act, claiming exemption under the 15th section of the act, and in consequence thereof, at a special meeting on the 20th April, 1869, Davey, the other defendant, was elected trustee, and it further appears that they all acted as such and levied rates. It also appears that the necessary steps were taken in accordance with section 27, sub-sec. 11, for making a rate and levying the same. The warrant is in the usual form. We see nothing defective in it, nor in the levy under the warrant.

We therefore think the appeals should be allowed, and that the verdict be entered for the defendants in the Court below.

APPEALS ALLOWED.

PATTERSON AND THE CORPORATION OF THE TOWNSHIP OF HOPE.

Alteration of School Sections—Notice to parties affected—C. S. U. C. ch. 64, sec. 40.

Section 40 of the Common School Act, Consol. Stat. U. C. ch. 64, enacts that a township council may alter the boundaries of a School Section, in case it clearly appears that all parties to be affected by the proposed alteration have been duly notified of the intended step or application.

In this case the only notice given was by the trustees of the section from which certain lots were taken by the alteration to the trustees of the section to which such lots were added—that being the notice which it was alleged had been customary in the township in similar cases. Held, insufficient, and the by-law making the alteration was quashed.

The by-law was passed in February, 1870, but the clerk of the Corporation did not notify the trustees of it until August—Held, that a motion to quash in M. T. 1870 was in time.

T. M. Benson obtained, during this term, a rule on the Corporation of the township of Hope, to shew cause why by-law No. 250 of the Corporation, amending by-law No. 222, and altering the boundaries of School Sections 15 and 16, should not be quashed, on the ground that all parties affected by the alteration in the boundaries of School Section 16 had not been before the passing of the by-law duly notified of the intended step or application for the passing of the by-law, or for the alteration of the said boundaries.

The by-law was passed on the 28th day of February, 1870. It enacted that lots 11, 12, 13, 14, and 15 in the 8th concession, and two acres of No. 14 and of No. 15 in the 7th concession, be added to School section 15, and then set out what section 16 should consist of, namely, eight lots in the ninth concession and eight in the tenth concession.

It appeared also that by-law No. 222 was passed on the 3rd June, 1868, and that section 16 had then within its limits the lots added by by-law 250 to school section 15.

It appeared from the affidavits and papers filed, that under the provisions of by-law No. 222, passed in June, 1868, the lots and parts of lots now separated by by-law 250 were added to school section 16, and that in the fall of that year the trustees of section 16 erected a school-house at considerable expense, near the centre of the then increased section, to accommodate the portion of the section then added: that on the 27th of May, 1869, a number of the ratepayers of section 15 petitioned the township to pass a by-law to restore to that section the lands separated from it by by-law 222, and that on the 23rd of June, 1869, the inhabitants of section 16 petitioned the Council against taking any land from their section, and praying them to add thereto the north halves of lots 16 and 17 in the eighth concession. Nothing appeared to have been done with either of these petitions, except, according to the affidavit of the Clerk of the Council, that the first petition was ordered to be laid on the table.

A meeting of the Council was held on the 28th of February, 1870, at a place called "Welcome," which was complained of by the applicant as not being the usual place for the meeting of the Council, but it was shewn that it was advertised that a meeting would be held there. At such meeting a petition was presented of the trustees of school section 15, praying that the Council would pass a by-law "giving them back that portion of land taken from them:" that a notice of which the following is a copy, was also presented and filed: "To the Trustees of School Section No. 16, Township of Hope. The Trustees of School Section No. 15 will apply to the Municipal Council of this Township, at its first regular meeting, for the passing of a by-law to make our section equal, or

nearly so, in valuation with other sections in the township, by giving back that portion taken from our section by the Locking(a) Council, or any part that the Council in their judgment may think proper. By order of the Board of Trustees. Dated 18th February, 1870. (Signed) S. T. Martin, School Trustees," with seal attached.

It appeared that this notice was served on one of the trustees of section 16, on the 18th February, 1870, but the trustees swore they were not aware of the meeting of the Council or where it was to be held until the 25th: that on the 28th February two of the trustees of number 16 attended the meeting of Council at Welcome, and addressed the Council against any alteration, and urged the Council to allow the matter to stand over until notice could be given to the parties affected by the proposed alteration, and stated that they had not had time to call a school meeting or notify the parties, and requested a month's delay to enable them to do so: that the Council refused to postpone the by-law, the Council deciding, as the Reeve swore, that of the then application sufficient notice had been given; and the Council, after considering the object of the application and the two former petitions already referred to, passed the by law 250.

It appeared that there were 46 residents within the section 16, and out of these thirty filed affidavits swearing they had no notice of any intended step or application to be made for the alteration during the year 1870 of their section, until after the by-law was passed, and that no notices were ever given or posted up. On the part of the Corporation it was not contended that any other specific notice was given except the notice to the trustees. The affidavit of the Reeve and others stated that the usual mode of giving notice in cases of alteration of sections in the township was the giving of a notice by the trustees of the section from which the lands were to be taken, and that the sufficiency of such a notice had been discussed from time to time by the Council on previous occasions of alteration of sections, and that such a notice from one set of trustees to the other was held to be sufficient, and was so treated in the alteration of boundaries.

The Secretary-Treasurer of the school trustees of section 16 swore that the first and only notice he had of this application of the school trustees of section 15 was the written notice referred to, and that the freeholders and householders in the section were wholly ignorant of the intended step or application until the by-law had passed; and he further swore that a large majority of them were opposed to the alteration, and that this application to quash the by-law was made at the instance of and under a resolution passed at a meeting of the inhabitants of the section.

Armour, Q. C., shewed cause, and C. S. Patterson supported the rule.

MORRISON, J., delivered the judgment of the Court.

It is to be regretted that the council did not accede to the request of the trustees to postpone the consideration of the by-law for the month. There was abundance of time after February for the consideration and passage of the by-law, as it could not come into force before the 25th December, 1870. The parties interested would then have had sufficient notice and this litigation would have been avoided.

The only question for our consideration is, whether the parties affected by this alteration had due notice of the intended step.

Section 40 of the Common School Act, Consol. Stat. U. C., ch. 64, enacts:—"In case it clearly appears that all parties to be affected by a proposed alteration in the boundaries of a school section have been duly notified of the intended step or application, the township council may alter such boundaries."

No doubt the council can make such an alteration as they have done in this case without any request from any quarter, and even against the will of the majority of the section, but they cannot do so without first notifying the parties affected by such alteration; they must give them an opportunity of being heard: *Ley and the Municipality of Clarke*, 13 U. C. R. 435. And, as said by Burns, J., in *Shaw et al. and the Corporation of Manvers*, 19 U. C. R. p. 294, "The giving of notice is a condition precedent to the council entertaining the application, and this provision must apply as well to the repeal of a law" (as in this case) "which would of itself constitute an alteration, as of a notice in the first case of making a change."

It is not pretended that the parties affected by the alteration (with the exception of the two trustees), had notice of the intended application made by the trustees of section 15, or of any step that the Council were about to take, or of their intention to consider the petition presented in June of the previous year, or the by-law in question—the Council, so far as notice was concerned, relying on an alleged custom in the Township, that a notice by one Board of Trustees to another Board was a notice to all the inhabitants of the section affected. Now the language of the statute leaves no

doubt as to the intention of the Legislature, for the 40th section says: "In case it clearly appears that all parties affected," &c., "have been duly notified," &c., "the Council may," &c. How or in what way notice may be given is not stated. I do not think that a notice to two trustees, as such, is a compliance with the statute. If such was the intention, we may suppose the Legislature would have said so. As to what the Legislature considered notice in other cases, may be found in the 8th, 21st, and 26th sections of the Act, namely, the posting of notices at least in three public places in the section, and at least six days before, &c.; and it seems to me that by analogy such a notice would be sufficient in cases like the present.

On the whole, we are of opinion that the parties affected by the alteration had not due notice of the intended alteration made by this by-law, and that upon that ground it should be quashed.

During the argument it was suggested that from the fact of petitions being presented to the Council in May and June, 1869, for and against such alteration, and which petitions were signed by a large number of the inhabitants of both sections, we might assume that the parties interested had sufficient notice; but as it appears no action whatever was taken on these petitions by the then Council, and that it was only in the end of February, 1870, after a new Council had been elected, and upon a new application of the then trustees of section 15, that these petitions were referred to by the Council, and then without any notice to the petitioners that they would be taken up or considered, we could not under such circumstances assume that the parties had the notice required by the statute.

It is also contended that this application should have been made at an earlier period, but it appears from the affidavits filed on the part of the Corporation that the clerk of the Council did not notify the trustees of the passage of the by-law until the month of August, and between that time and last term the applicant had no opportunity of moving to quash the by-law.

We therefore think the rule should be made absolute with costs.

RULE ABSOLUTE.

II. Correspondence with the "Journal."

To the Editor of the Journal of Education.

SIR,—Perhaps you will allow me a short space in your Journal for a few remarks respecting the salaries at present allowed to the generality of teachers, which I consider are in many cases a very inadequate remuneration for their services. I think no teacher ought to receive less than \$200 per annum for third class teachers, \$300 per annum for second class teachers, and \$400 for first class teachers; but as there are very many School Sections that cannot afford to pay so much I would suggest that the School Inspector should be authorized to make enquiry as to the ability of the ratepayers in every section to pay the above amounts. The Trustees' Assessment Rolls will assist him to form something like a correct opinion on the subject, and he should decide what every School Section should pay, and the deficiency should be made up out of the Government allowance, of course the present annual allowance voted by our Provincial Assembly would have to be greatly increased, but no money could be better spent. This would act as a great incentive to the teachers to qualify themselves for first and second class certificates, as they would then be certain of a fair remuneration for their services, and would not be so likely as at present to make teaching only a stepping-stone to something else. I do not think the new programme is very strictly carried out at present in rural School Sections, and hope that the Inspectors will strictly enforce the new law in this respect; although as respects the school-houses, a strict enforcement of the law in every case would be very burdensome to the ratepayers in newly settled townships where the school-houses are comparatively new. In this respect, but in no other would I recommend leniency on the part of Inspectors. I am not sure whether it will not be necessary to appoint an official to inspect the Inspectors as I fear all of them do not devote five days in the week to the discharge of their duties.

TRUSTEE.

To the Editor of the Journal of Education.

SIR,—As I have occasionally seen articles in favour of temperance in your Journal, perhaps you will kindly give insertion to a few remarks on this subject. One object of the various temperance associations appears to be to induce the Dominion Government to pass a prohibitory law to prevent the manufacture and sale of intoxicating liquors of every description, but I fear such a law would, by encouraging illicit distillation and smuggling, do more harm than good. I would suggest only an alteration in our present

(a) *Sic*.—Mr. Locking was the Reeve at the time the notice was given.

liquor law, depriving the magistrates of the option of inflicting a fine or of letting the offender escape unpunished on the plea of its being a first offence, or by promising to leave the place only to get drunk somewhere else, and making it imperative for them to commit the offender to the common gaol of the district for a period of not less than three days or more than one month with hard labour, and a prison diet of one pound of brown bread and five pints of water per day, no matter how cold the weather might be. It is not the severity so much as the certainty of punishment that deters man from crime, and for that reason the committing magistrate should have no option in the matter. But there is another great cause of intemperance which I fear no law could reach, namely, that of having wine at table at our social entertainments, a custom which every body must acknowledge has led many a promising young man to disgrace, poverty and premature death. If two or three of the most influential gentlemen in every town or city would only summon up sufficient moral courage to set the example it would soon be generally followed. I can see no reason why a Christian gentleman should not occasionally give a dinner or supper to his friends, but that is no reason why he should turn his dining room into a drinking saloon. I am no advocate for total abstinence in all cases, but it is difficult to define the limits of moderation. One man may be able to exercise a strict control over himself whilst another cannot take a single glass of wine without taking too much, and therefore it is only right to follow the exhortation of St. Paul, not to do anything whereby a weaker brother may be made to offend. Temperance is best inculcated in young people by training them up in habits of self-denial in everything. I have known instances where a young man who while he was under the paternal roof was never allowed to touch any intoxicating liquor, yet when he became his own master, soon became a victim of intemperance. It is vain to expect the reformation of society by means of temperance societies though they are frequently productive of good as they enjoin total abstinence only as regards strong drink, leaving untouched other evil habits, equally if not so rapidly destructive both of body and soul, which is perhaps the reason why their results are not always permanent. Is there any less whiskey drunk in Ireland now in proportion to the population than there was before Father Matthew commenced his crusade against the distilleries, and if so, is it owing to more generally temperate habits, or to the inability of the lower classes to procure the whiskey. Both in Canada and the United States, where whiskey is cheap, at least as much intemperance exists amongst the Irish in proportion to their numbers as amongst any other class of the population. While not in every case insisting on total abstinence, I am therefore a strong advocate of

TEMPERANCE.

III. Papers on Education in various Countries.

1. MAKING SCHOOLMASTERS IN GERMANY.

The following will interest our professional readers. The process of making schoolmasters in some places we know is shorter and easier:

"We will endeavour to indicate the career of an intelligent village lad who having, at the age of fourteen, completed his school course, resolves to become a schoolmaster. If in Saxony or Silesia, he enters a training school called "proseminar," because preparatory to the seminary or normal school; if in Prussia, he enters the house of a private tutor, probably the local schoolmaster or clergyman. At the age of eighteen he proceeds to the seminary, where he is to spend three years; the first and second to be devoted, according to an elaborate scheme, to all subjects he will have hereafter to teach; the third to be spent in teaching, under the supervision of the director of the seminary, in the "practising school," which is simply the nearest primary school. While in the seminary, he is subject to stringent discipline. He makes his own bed and cleans his own room; he pays for his board and lodging—the former being of a very homely description, and valued at eight-pence or nine-pence a day—and provides his own bread. At the end of the year he presents himself for his first examination, which is conducted by the authorities of the college, under the superintendence of the school councillor. This examination embraces religion, language, arithmetic, writing, drawing and singing, and is partly oral and partly on paper. The performances of the candidates are estimated with great precision, and certificates are given to all who acquit themselves satisfactorily. The teacher is now taken in charge by the department-councillor, who appoints him to a vacancy in his district. He holds, however, only the position and the title of provisional teacher, full status and rank of schoolmaster being withheld until he has passed a second examination, held three years after the first. This examination is rather an investigation into

character and conduct than into attainments. When his last ordeal has been passed, the teacher takes the oath of allegiance and receives a definite appointment as master of the school."

2. KINDERGARTEN SCHOOLS.

The name Kindergarten, or garden of children, is not intended to imply that children are to be instructed out of doors; but that the school is a garden plot, in which the children are the plants, and the teacher the gardener, whose duty it is to give his pupils a kind of care analogous to that which the gardener gives his plants; removing hindrances and heightening all favouring circumstances, so that they may have room and opportunity for development according to the laws of their growth.

The name and the system were originated by Froebel, who devoted half a century to elaborate, by study and experiment, a new primary discipline in accordance with child nature. Already, although this is not yet anywhere a national system, it has spread over Germany, and has been introduced into Scandinavia, Switzerland, Spain, France, Italy and Russia, and is beginning to find its enthusiastic supporters in the United States. It has to contend with some prejudice excited by a class of schools called Kindergartens, which were merely a variation of the ordinary primary schools—an imitation of the real Kindergartens—established by teachers who had read something concerning the subject, but had not had the necessary training and missed the essential idea of the system. To teach the system efficiently, one must thoroughly learn it. The best Normal school for this purpose is that founded by the Baroness Marenholtz Bulow, in Berlin, where she gives free lectures upon the philosophy of the method to pupils, who have an opportunity to observe and practise it in Madame Volger's Kindergarten. A pupil of this school, Madame Kriege, has the only Kindergarten Normal school in America. This is a private school in Boston, where Madame Kriege lectures upon the method, while her daughter teaches the Kindergarten class, which the Normal pupils attend by way of living example. The public school authorities of New York hope soon, it is said, to secure the services of these ladies in the public Normal school of that city. They have now a class of ten or twelve ladies. There will soon be so great a demand for teachers of this kind that those places may consider themselves fortunate which secure the services of one of these.

A lady who travelled in Europe to study Froebel's Kindergartens brought home from Dresden the whole series of work done by a class of children who began at three years old and continued till seven, and no one has seen it without being convinced that it must have educated the children that did it, not only to exquisite artistic manipulation, which it is very difficult to attain later, but to habits of attention which would make it a work of a short time to learn to read, write and cipher, and would enable them to begin a scientific education, and use books with the greatest advantage as early as eight or nine years old. This work is of many kinds, as will be perceived when one considers that in the three hours' daily session there must be two or three different kinds of quiet tasks and two or three active plays. The tasks themselves are play, being some form of interesting instruction. For Froebel, instead of beginning the process of education by paralyzing the child's activities and keeping him still, organizes the play itself into an educating process. He has invented a series of playthings, beginning with solids, (balls, cubes, etc.) going on to plane surfaces, and squares and triangles, and thence to sticks of different lengths, and points (peas or balls of wax) with which the sticks can be inserted, to make frames of things, and symmetrical forms. By this work, superintended with sympathy, interest, and suggestion by the teacher skill, neatness and order become habits. The little tables at which the children sit are marked off in inch squares, and the blocks, planes and sticks are not laid in confused heaps, but carefully adjusted one by one to these squares. When the child has acquired sufficient skill to invent forms which he wishes to make permanent, he is taught to draw or prick pictures, to sew cardboard with coloured threads in regular patterns (no copies allowed) to weave into slitted paper of one colour, stripes of another colour, to fold paper with great exactness in geometrical forms, and unfold it to make little boats, chairs, cups, etc., and to mould figures out of clay.

Calisthenics, ball-plays, and plays imitating the motions of beasts or birds, mechanical labours, etc., are alternated with these quieter occupations, and give grace and agility. These exercises are directed and enlivened with songs.

The teacher, by constant questioning, calls the child's attention to every point of resemblance and contrast in the objects presented to it, and encourages it to relate its little experience, or explain its little invention, so keeping its mind awake and in agreeable activity.

The system of instruction in the Kindergarten is, in fact, simply the carrying out of that education which a loving and sensible mother begins in the nursery, not of set purpose, but by natural instinct, when she plays with her baby, teaches it to notice things, to use hands and feet, talks to it, and interprets its dawning thoughts and wishes into words. If a baby is not played with it ceases to play, and becomes, if not an absolute idiot, at least dull, discouraged and stupid. It is sad to think what immense injury is done, and what waste made of human faculty, by those defective methods of education, which undertake to reverse the order of nature, and make children passive to receive impressions, instead of keeping them active, and letting them learn by their own or a suggested experimenting.

This system of education is not adapted merely to primary schools; the fundamental idea of it is applicable to all instruction, and it is hoped that in time our whole method of education may be reformed by it. Meanwhile the change most needed, and the best beginning of a thorough remodelling of our methods of teaching, is the introduction into our public schools of the Kindergarten.

3. DRILL IN FRENCH SCHOOLS.

What is considered a decided reform is just inaugurated in French Schools, and it is worth consideration elsewhere. After the 8th of this month, drill was to be compulsory in all public schools. The advantages of this method of developing the physical frame of youth are too obvious to need argument, and in fact many English schools adopt the drill system as a valuable part of the regular course. The French method now initiated goes a great deal farther, however, than instruction in bodily carriage and military evolutions, for it embraces training as actual soldiers. For instance, boys will, on reaching a certain degree of efficiency, be exercised with chassepots, and in towns having a cavalry garrison, will be taught riding with the regular army recruits. The population will thus grow up better prepared than formerly to act on the offensive or defensive, as the country may require. We cannot but think that the system might be copied here to some extent, since every man should be prepared to take his part in protecting the national honour and safety. It seems reasonable besides to associate the idea of a militia or volunteer force in which all may be liable to serve, with a branch of the cavalry education as a preparation therefor.

4. COMPULSORY EDUCATION IN MAINE.

The Committee on Education in the Maine Legislature has reported a Bill providing for compulsory education in that State. It provides that parents or guardians having charge of children between 8 and 14 years of age shall send them to a public school at least 12 weeks in every year, not less than six of which shall be consecutive, unless such children are excused attendance by the school officers of the town on the ground of mental or physical debility, or because they are taught the ordinary branches of learning at home or in a private school. Provision is made for the enforcement of the Act by fines for violation thereof. New Hampshire has already a compulsory school law, and several Western States are discussing the subject.

5. EDUCATION AND CRIME COMPARED.

We commend the following statements found in the report of the Commissioner of Education, in regard to the relation between education and crime, or to speak more properly, between illiteracy and crime:

A table of ratios shows that there was, in 1870, one homicide to every 56,000 people in the Northern States, one to every 4,000 in the Pacific States and Territories, and one to every 10,000 in the Southern States.

In 1866, there were 17,000 persons reported in the prisons of the United States; but the statistics on this subject are very imperfectly kept. Prisons and reformatories, in some parts of the country, keeping no record of the intelligence of the persons committed. In New England these statistics have, in some cases, received considerable attention, and the able writer who furnishes the accompanying paper, has drawn the following conclusions:

I. At least 80 per cent. of the crime of New England is committed by those who have no education, or none sufficient to serve them a valuable purpose in life. In 1868, 28 per cent. of all the prisoners in the country, were unable to read or write. From 3 to 7 per cent. of the population of the United States commit 30 per cent. of all our crime, and less than one fifth of one per cent. is committed by those who are educated.

II. As in New England, so throughout all the country, from 80 to 90 per cent. have never learned any trade or mastered any skilled labour; which leads to the conclusion that "education in labour

bears the same ratio to freedom from crime, as education in schools."

III. Not far from 75 per cent. of New England crime is committed by persons of foreign extraction. Therefore 20 per cent. of the population furnishes 75 per cent. of the criminals. It is noticeable, that "the immigrant coming hither with education either in schools or labour, does not betake himself to crime."

IV. From 80 to 90 per cent. of our criminals connect their career of crime with intemperance.

V. In all juvenile reformatories 95 per cent. of the offenders come from idle, ignorant, vicious homes. Almost all children are truant from school at the time of their committal; and almost all are children of ignorant parents. These children furnish the future inmates of our prisons; for "criminals are not made in some malign hour; they grow." In the face of these facts, what can be said but this: "ignorance breeds crime, education is the remedy for the crime that imperils us."

6. PROVINCE OF ONTARIO, CANADA.

The Ontario educational report for 1870, drawn up by the Chief Superintendent, presents many interesting facts; it also shows a very thorough research in all the leading educational systems of this country and of Europe, and a determination to make use of good ideas wherever they may be suggested.

The whole number of pupils in the public schools was 442,518, an increase of 10,083. The total receipts for common-school purposes for 1870 were \$1,944,364. 5,165 teachers were employed—2,753 male, 2,412 female. The highest salary paid to a teacher in a county is \$600—the lowest \$100; in a city, the highest \$1000—the lowest, \$250. The efficiency of public-school education is seriously impaired, as it is so often in our own states, by the action of trustees and parents, "whose aim is to get what they miscall a cheap teacher, and who seek to haggle down the teacher's remuneration to as near starvation point as possible, though, in reality, they are intellectually starving their own children and wasting their time by employing an inferior teacher."

The report covers the last year of the old *regime*, under which the schools might be free, or requiring payment of fees, as the local votes in school sections decide. At the present time, however, the public schools of the province of Ontario, by act of legislature, are free to all residents between the ages of five and twenty-one years.

One normal school of over 200 pupils is sustained, and its services are found indispensable. Free public libraries have been organized, containing 239,062 books. Superannuated and worn-out teachers may be pensioned from a fund composed jointly of an annual appropriation of \$4,000 from the legislature, and yearly subscriptions from such able bodied teachers as may in future desire to become recipients.

Many practical points, such as compulsory education, are discussed with much ability in the report, and instructions in drawing and natural science in all public schools is recommended with much pointed argument and earnestness. Our Canadian cousins of the province of Ontario are evidently wide awake in educational matters, and we shall do well to study their systems for our own profit, and to extend to them the right hand of fellowship.—*Conn. S. J.*

7. TEACHER'S SERVICES, AND THE RECOMPENSE OF THEM.

The numerous applications from various parts of the country for school teachers indicate two things, that, the cause of education is still active amongst us, and that good teachers are becoming scarce. Touching this latter point, it must be clear that the high educational status required by the Board of Education for teachers to possess, is incompatible with the low salaries which have been paid hitherto. For many years it was the custom to treat the claims of teachers as of very secondary importance; and to get some one who would teach "cheap" has been deemed an exploit worthy of the concentrated intelligence and united exertions of a whole Board of Trustees. It may be understood that that day has passed, or is fast passing away. It is now being felt that it is not to the interests of parents to commit their children to the care of half-taught, ill-regulated people, and then expect that they will leave school well instructed and well-behaved. The means must be suited to the end, or the desired results will not be attained. The Superintendent of education, Dr. Ryerson, has, amid much hostility on the part of those who should have known better, gradually elevated the whole tone of general education in Canada, and by calling for a high standard of education, and of adaptability on the part of the teachers, has laid the foundation for great progress in this important feature of national life. But the attainments now demanded call for high capability and earnest work. It is not an easy matter to secure a first-class certificate now, and it costs both money, time and labour before any can procure it. With the increasing demand

for intelligent services, not only in Canada itself, but also in the States, it is not reasonable to suppose that they can be procured for the beggarly pittance that was given aforetime, when a teacher was thought well placed if he could "board around" among the parents, and get enough to have his boots blackened on meeting days, and appear in a good suit of clothes. The time has come when teachers must not only be paid but recompensed. Recompensed for services which, if faithfully rendered, are of untold value to those who are dearest to us, and are destined to follow us in the task of life. It will be necessary, therefore, for a general rise to take place in the salaries of school-teachers. Justice demands it, and the trustees throughout the country will learn by experience, what may prove a more compelling ordinance, that necessity will compel it.

DRAWING has been adopted as a branch of instruction in all the departments of the Public Schools of Philadelphia, except the Primary, and in this department it will be taught as a matter of course. This is considered by the friends of education in that city a very gratifying step in advance.

OXFORD.—The nobleman's gown, and the gold "tuft" on the velvet cap which was formerly worn by peers' sons at Oxford, is now a thing of the past; the "gentleman commoner's" silk gown, too, is all but extinct in the University, and quite extinct at Christ Church, where it formerly prevailed most extensively. Is this a sign of the increasing "liberty, equality, and fraternity" which mark the present age?

DR. HOOKER, of the Royal Botanical Gardens of Kew, England, has gone to Morocco to make a collection of the plants of that country.

THE Emperor of Brazil, who is now on a visit to Europe, and who promises on his return to pay his respects to this country by a short sojourn among us, is a great scholar, and is said to be especially devoted to philology and the study of comparative grammar. He also took a great interest in the exploration of the Amazon by Professor Agassiz.

A most interesting work for the student of ancient geography has lately been published at Berlin by Herr Partney. It is a "Geography," compiled by Dicuil, an Irish monk, in A. D. 855, upwards of a thousand years ago. It is probably the oldest educational work of the kind in existence, with the exception of Herodotus, Aristotle and Pliny.

PRUSSIA.—The Minister of Education in Prussia has drawn up three Bills for educational reform, which are shortly to be laid before the Council of State. The first provides for the establishment of training schools for teachers; the second, for the improvement of imperial colleges, and the third, for the establishment of schools of science. A move is to be made also for the improvement of female education.

OF SCHOOLMASTERS NOW BISHOPS.—Of the famous men of England now living, who were formerly schoolmasters, are the Archbishop of Canterbury, who was master of Rugby; the Bishop of London, who was master of Islington School, and the Bishop of Lincoln, who was master of Harrow.

DON.—In the middle ages the professors of the University of Oxford were called "Dominus," or "Don." In the case of the learned professor whose name is known to scholars as "Duns Scotus," the title was of course conferred, and the opprobrious name, "dunce," came into use somewhat on the *lucus a non lucendo* principle. Hence the common term "dunce."

THE TRAINING OF YOUTH.

The Rev. J. G. D. McKenzie, in his report on the High and Public Schools of Ontario, published in the last education report, says:—"Our drill classes, I am sorry to say, are, with two exceptions, extinct. I may also mention with regret that scarcely any of our High Schools make provision for gymnastic exercises." This is certainly not as it ought to be. Drill and gymnastics at school, besides giving a deportment that cannot be acquired in any other way, are to be highly recommended for physical reasons. A well cultivated mind in a sound body is the great desideratum. A development of the mental powers at the expense of the physical, is, after all, a deformity to be avoided. During school days a healthy foundation should be built up for the constitution, that will enable it to bear up against many of the inevitable shocks of after years, or else the seeds of disease are implanted, which all too soon develop into fruit. During the period

of growth, too much sedentary employment is likely to prove injurious, and as it is during this period that our children must be educated, all precautions ought to be taken to prevent it having any ill-effect. Moderate and regular exercise at drill and in the gymnasium, and by other means during school life, are the best methods of securing a sound constitution. It is to be regretted, therefore, that physical training should have diminished in our public schools, as the Inspector's report indicates.

If these remarks apply to our boys, they are none the less applicable to young ladies attending school. In the rough play that school boys indulge in there is some chance of physical training; but the customs which hedge about a girl from the moment she quits the nursery forbid her partaking in any "unladylike" sport, hence, all the greater need of a systematic course of exercise while attending school. The formal and joyless walk under the mistress' eye often constitutes the only exercise ladies receive during the educational period. While we must not omit the mental training of our youths of both sexes, it is scarcely of secondary importance that their physical powers should also be developed.

Under the late School Act the High School Boards of Trustees are invested with full power to raise all the money they need for the legitimate expenses of the school. In the future it is to be hoped that the sanitary condition of the buildings and provisions for gymnastic exercises will not be omitted, and as for our Lady Colleges, the parents of the pupils have a right to indicate a wish to have their daughters subjected to moderate physical training, and this expression might prove sufficient to bring about the needed reform.—*Toronto Express*.

HOW TO RIGHTLY INFLUENCE CHILDREN.

If you would influence children for the right, win their love. It takes little to do that. A child's heart is warm, ready to give back full measure of love for a tender smile or a helping hand. Do not repulse them if their caresses are rough, or their rejoicings noisy. What is your rumpled collar or aching head to the harm done when you chill the child's affection? Said a stout, rough farmer to me, "I like Will S—, I haven't seen him for years and years, but I like him. He used to let us go with him to the fields, or off fishing, and took pains to make us happy, as if he thought us of some consequence, if we weren't knee-high." Don't scold them. If you must reprove—and children will respect and love you more if you reprove their faults—let your manner be firm and quiet. No bluster avails with them, but they know at once when you are resolute. Above all be sincere. As has often been said, children are the surest detectives. You cannot cheat them with pretence, as you can their elders. To influence them to purity and truth, you must yourself be thoroughly pure and true.

IV. School Accommodation and Sites.

1. INADEQUATE PROVISION FOR SCHOOL ACCOMMODATION.

From time immemorial the country school-house has been an object of satire and ridicule, on account of its cheapness and neglected condition. While great improvements have been made, of late years, in school-house architecture, specimens of the olden style remain in sufficient abundance to confirm and illustrate all that has been said and sung about this monument of public economy. A single glance at its structure, in comparison with the church, the court house, or even the common jail and penitentiary, will reveal how much deeper interest in these was felt by the builders than in that edifice where the young receive those lessons which are to determine the character of their future manhood.

One would suppose that within those walls, where the children are to spend so large a portion of their tender years, some of the comforts which men demand for themselves in mature life might be provided for the young, to mitigate, in some degree, the severity of those tasks which rigid mental discipline requires. But the carpeted floor, the cushioned seat, the frescoed wall of the church, the rich finish and furniture of the bank, or elegant store, would be quite out of place where children are assembled for the culture of the intellect, of refined habits and manners. It is a matter of wonder that those children who come from homes richly supplied with whatever can contribute to comfort, refinement, and the culture of taste, should deteriorate under such surroundings as are too common; or that those whose homes are destitute of comfort and refining influences should fail to receive that culture from coarse surroundings which is a most desirable part of an education.

Sometimes great care is taken to build the house properly, of suitable materials thoroughly put together according to plan and contract. But often here ends the responsibility of the builders. The

money is expended, and, at the last, the very supplies essential for the success of the school fail to be furnished. The tools needful for daily work are wanting. Inadequate provision for warming, or taking care of the premises, or making repairs, occurs oftener than in any manufacturing establishment or mechanic's shop.

A competent teacher works successfully, as does a workman in any other business, only as necessary implements and conveniences are provided for his use. If denied them, his efforts are but a partial success at best. What, then, can be reasonably expected of a poor teacher, with poor pay, in a dilapidated house, without conveniences? Weak points in the system, are they all.—*A. Parish, in Connecticut School Journal.*

2. "ADEQUATE SCHOOL ACCOMMODATIONS."

In answer to numerous inquiries as to the law relating to school accommodation, we desire to state that the second section of the School Act of 1871 declares that:—

"Each school corporation (in a city, town, village or rural school section) shall provide adequate accommodations for all the children of school age (from five to sixteen years, resident) in their school division or municipality."

The regulations, which define what "adequate school accommodations" are, suggest a medium or minimum amount of school accommodation to be provided, as compared with the law and regulations on the subject in other countries. Although the law, as quoted above, is imperative, yet inspectors will exercise a judicious discrimination in enforcing it.

3. SCHOOL PREMISES AND ACCOMMODATION.

We would request the attention of Inspectors to Note to a of Regulation No. 4 of their "Duties," in which they are directed to call the attention of Trustees to the condition of the School premises. In many School sections the School-house has been allowed to remain in the same state for fifteen or twenty years and longer, often on a bare open space, or on the road-side unenclosed, without a tree or shrub near by to shade it, or any provision being made by the Trustees for the convenience or health of the pupils, or even for their observance of the decencies of life. The Legislature has wisely decided that this state of things shall not continue, but that, as soon as possible, a remedy shall be applied, where necessary. A reasonable time should of course be allowed to Trustees in all cases to set things right; but in the meantime Inspectors will, we trust, not fail to urge upon Trustees the necessity of complying, as soon as possible, with the provisions of the law on this subject.

4. SCHOOL-HOUSE VENTILATION WITHOUT DRAUGHT.

One of the most essential conditions upon which depends the maintenance of health is the ventilation of apartments, whether living rooms, sleeping rooms or working rooms without the introduction of draughts or cold air at unseasonable times and in improper or dangerous directions. If this problem has not been completely solved, at least a most important contribution to its solution has been made by the system devised by Mr. William Potts, of Birmingham, which has during the last three years been introduced into different hospitals, schools, Government buildings, factories, offices, and private dwellings. According to this plan a hollow cornice, by preference made of zinc, runs continuously round the room, as the ordinary plaster cornice does. This metal cornice is divided longitudinally into two channels. The fresh air is admitted into the pure air channel, or lower chamber through openings in the wall, arranged at intervals according to the purpose for which the room is used, and descends into the room near the wall line through the perforation at the back of the lowest member. These perforations are invisible from the front, and being stopped immediately in front of the openings in the wall, the air cannot fall by a direct stream into the room, but is directed along the channel, and descends evenly and gently by its own gravity, and becomes diffused imperceptibly through the room; because, when first admitted, it is heavier than the vitiated or heated air within, and consequently flows freely in, but in descending it becomes warmed by contact with the warmer air, and thus loses gradually its weight and force; and as it flows down it comes each moment into a cooler and denser atmosphere—thus, from two natural causes, it cannot produce a draught when properly checked and distributed. The upper or foul air channel communicates with the smoke flue or air shaft, or other extracting

channel; it is perforated continuously along the face with ornamental patterns, and the ceiling being darkened at the back, these patterns show as stencilled enrichments on the cornice. The vitiated air, whether from combustion or the human breath, rises when given off, to the highest point, is there drawn by the outward current through the perforations into the channel, and conveyed away by the air shaft or flue. It encounters no opposition to its exit, as the cold air coming in descends for a considerable distance close to the wall line and is admitted at a lower level, and so assists instead of retarding the escape of the vitiated air. This description will be sufficient to show the simplicity of the plan, and at the same time to indicate the principles upon which it is founded. The zinc cornices, it may be added, are far more ornamental and at the same time cheaper than the common plaster ones, and admit of every variety of modification in the shape or design in order to meet the varying circumstances under which they may have to be applied. The plan has already been pretty largely brought into operation, and has been applied with success to the rooms of the School Board, in Bridge street, Blackfriars, and to the kitchens in Somerset House. It may also be applied to the ventilation of ships, especially those employed in the cattle trade, and will, if the hopes of the inventor are realized, go far to supersede the use of punkahs in India.—*London Daily News.*

COMPULSORY SALE OF SCHOOL SITES.—DISTINCTION.

The provisions of the law on the compulsory sale of school sites are twofold, although they have been confounded together. The first part of the Section refers, (1st.) to the selection of land for a school site, and (2nd.) to the selection of land for the enlargement of school premises." In these two cases the Trustees can demand an arbitration, should the owner of the selected or enlarged site refuse to sell, or ask too great a price for the land. In the case of the selection of a new School site, the owner can successfully refuse to sell, or even to submit to an arbitration, when the selected site is within 100 yards of his "orchard, garden, pleasure grounds, or dwelling house," but where the Trustees merely wish to enlarge their existing school premises, the owner has no such right. The provisions of the law giving this right limits it merely to the "selection of a site," and not to the enlargement of the school premises. Two things are specifically provided for in the Act, as we have shown, but the right reserved to the owner of the land refers only to one of them—that is to the case of the selection of a new site, and not to the enlargement of the old one.

The provision of the law does not, in any case, (as has been supposed,) apply to other persons whose house, &c., may happen to be within 100 yards of the proposed site, but who are not in any way concerned in the sale of the site.

V. Papers on Scientific Subjects.

1. SOCIAL SCIENCE IN ST. PAUL'S CATHEDRAL.

A new innovation is reported from England. Social science has obtained a footing in the venerable pile, St. Paul's Cathedral, and Canon Gregory has discoursed on the question, "Are we better than our Fathers?" beneath its magnificent dome. The lecture is the first of a series which are to last till the end of the year. There has been a growing dissatisfaction for some time past at the little use to which the cathedral was put, the services held in it occupying but a few hours weekly, and the week day religious services being attended sometimes by less than twenty persons. Canon Gregory had an audience of 1,200—men only being admitted. Canon Liddell will next month explain one of the epistles. The *London Times* points out that these lectures to be attractive must be different from a Sunday sermon, and no doubt the hint will be taken by the Rev. lecturers. At any rate, no objection on this point could be made to the lecture of Canon Gregory, who treated his subject in the broadest manner. One of his remarks on the question was that "an age of comparative violence had been succeeded by an age of fraud,"—which, we fear, has more of truth than poetry in it. The lectures promise to be very successful.

2. CLASSIC VERSE AND NATURAL SCIENCE.

Shall I shock the taste of any whom I address, if, after having written some thousand Greek and Latin verses in my own school-days, I pronounce them waste of time, and protest against them altogether? They do not cultivate the taste, for reverent enjoy-

ment of the beauty of an author's thoughts is excluded by the labour necessary for a feeble imitation of his diction. They do not train the intellect, for all chances of analysing words and sentences is lost in the necessity of wedging lifeless blocks into the form of a hexameter or iambic verse. Except in the case of those in whom the 'sacred faculty is innate, and whose genius would find fitter scope in exploring the poetical resources of their own literature and language, they constitute a mere mechanical process, exercising hardly more effect on taste, refinement, imagination, than the compilation of a Chinese puzzle. Their elimination from our school system will be clear gain in itself, and will let free at once a much larger time than is demanded for the prosecution of natural science. —*Rev. W. Tackwell at British Association.*

3. THE MAGIC NEEDLE.

In Europe the chief power of the magnet was perhaps known but never applied, for a thousand years. An Icelandic writer, *Arc Frode*, makes the first mention of it near the year 1100, stating that a hundred years before, a famous pirate went in search of Iceland under the guidance of three ravens, trained for the purpose, since "in those days sailors of northern regions did not yet know the use of the leadstone." For he called it the lead, or leading, stone, from which our loadstone is derived. Even this historian, however, knew only a magnet suspended by a thread, and the compass itself was yet undiscovered. At first, the magic needle was used with amusing clumsiness, as we learn from a manuscript, dated 1203, in the Royal Library in Paris. An ugly, black stone, called *mariniere*, we are told, which sailors valued highly, was taken out when nights were dark, and a needle rubbed with it lightly; the latter was then cunningly placed upon a straw, and set afloat in a basin, when the point would indicate the north.

Another peculiarity of the magic needle was a cause of much anxiety and peril to the discoverer of our continent. When the great navigator had ventured about two hundred leagues into the Atlantic Ocean, on the 14th of September, 1492, he noticed for the first time that the needle, at evening-dusk, no longer pointed due north, but deviated several degrees in a north-westerly direction, and the next morning the deviation had increased. Full of anxiety and wonder, he watched it carefully, and, to his consternation, the farther west he sailed the more the needle appeared to deviate. At first he kept his discovery to himself, fearful lest he should alarm his crew and defeat his purpose; but soon the men at the helm noticed the change, and were filled with grievous apprehensions. They fancied they had penetrated into a new world, ruled by other laws, than those to which they had been accustomed. If the magic needle lost its power what was to become of them on the boundless ocean? Never, perhaps, was Columbus greater than when, sternly suppressing his own fears, he told them that the magnetic needle pointed, not toward the north pole on earth, but toward an invisible part of the heavens, which changed its place together with all the heavenly bodies. They believed the man whose vast knowledge and marvellous energy they had learned to appreciate; their minds were calmed, the voyage continued, and a New World discovered. Henceforth the magic needle achieved triumph after triumph. With such aid, Diaz, Cabral, and Gama, could cross vast oceans, and Magellan and Sebastian Cabot sail around the whole earth—thus ending forever the objections made by superstition and bigotry, and teaching man the true form and nature of the globe which he inhabits. While, heretofore, the majority of vessels, in the Mediterranean even, had been wrecked, or at least had reached their desired haven only with a small part of their cargo now insurance companies are formed in the large seaport towns, and the premiums, even for India voyages, soon became small so as to make insurance the rule. —*Appleton's Journal.*

4. BEAUTIFUL CHEMICAL EXPERIMENT.

Take two or three leaves of red cabbage, cut them into small bits, put them into a basin, and pour a point of boiling water on them; let it stand an hour, then pour off the liquor into a decanter. It will be of a fine blue colour. Then take four wine-glasses; into one put six drops of strong vinegar, into another six drops of the solution of soda, into a third the same quantity of a strong solution of alum, and let the fourth glass remain empty. The glasses may be prepared before, and the few drops of colourless liquids which have been put in them will not be noticed. Fill up the glasses from the decanter, and the liquid poured into the glass containing the acid will quickly become a beautiful red, that in the glass containing the soda will be a fine green, that poured into the empty one will remain unchanged. By adding a little vinegar to the green it will change to red.

5. WONDERS OF SCIENCE.

In a recent lecture by Professor Tyndall delivered at the Royal Institution, London, among other illustrations of the wonders of modern scientific discovery, he exhibited the remarkable powers of the great electro-magnet employed by Faraday, and a model engine by Froment, showing how the force of electro-magnetism may be applied to pumping water and pile-driving. He also showed how a musical tone may be obtained from the rapidly successive clicks produced whenever the electric circuit is alternately made and broken; and then, by an ingenious arrangement of levers and mirrors, he demonstrated the truth of M. Joule's discovery that a bar of iron is lengthened when magnetized, its volume being unchanged. The formation of the magnetic curves, by the movement of iron filings strewed on a sheet of paper placed over two bar magnets, was shewn on the screen by means of the electric light.

6. USEFULNESS OF A PIECE OF COMMON MIRROR.

The trick often played by mischievous children, of reflecting the solar rays by means of looking-glass to a certain spot, thus annoying their neighbours, may be turned in many ways to very useful purposes. In case the bottom of a well needs examining, it is easy to hold a mirror or a piece of the same in such a position as to reflect its rays in the water, so that not only anything floating on the surface can then be plainly seen, but also whether the water be clear. If the contents of the well are not turbid, the smallest object on the bottom can be distinguished. We have in this way traced and recovered objects dropped in wells of 60 feet in depth, and which contained more than 20 feet of water. When the objects are small, or a minute examination of the bottom is required, an opera-glass may be put in requisition. If the top of the well is not exposed to sunlight, a mirror may be placed outside, even at a great distance, to reflect the light over the top, where a second mirror may reflect it downward. Impurities and sediments at the bottom may thus be discovered, and the experiment thus serve as a sanitary precaution. Letting a lamp, candle, or lantern down gives by no means so successful a result, as the light is very weak compared with sunlight, and its glare, even the eyes are shaded from its direct rays, prevents distinct vision. The only thing which can replace solar light in such a case is the oxygen lime, magnesium or electric light, generated above the well, and reflected downward by a concave mirror, or its rays rendered parallel, like solar rays, by means of a large lens.

The method mentioned of two mirrors, one outside reflecting the solar rays in a room, and a second small mirror in its path to reflect those rays into a dark cavity, is at the present day successfully employed by physicians, for the examination of cavities of the body; for instance, to explore the tympanum in the human ear, the larynx or throat, etc.

There is another use of a piece of looking-glass, by which the annoyance of smoking chimneys and even the danger of fire may be saved. It is to hold in the hole in the chimney wall, into which the stove-pipe is to go, a piece of mirror, inclined at an angle of 45 degrees. If the observer can see the light of the sky, he will also see the whole interior of the chimney, and any obstruction in the same. As most chimneys are straight and perpendicular, reflection will make the top opening clearly visible.

7. CURIOSITIES OF ANIMAL LIFE.

"There can be no doubt," writes Mr. Darwin, "that dogs feel shame as distinct from fear, and something very like modesty when begging too often for food. A great dog scorns the snarling of a little dog, and this may be called magnanimity. Several observers have stated that monkeys certainly dislike being laughed at, and they sometimes invent imaginary offences. In the Zoological Gardens I saw a baboon that always got into a furious rage when its keeper took out a letter or book and read it aloud to him, and his rage was so violent that, as I witnessed on one occasion, he bit his own legs until the blood flowed." All animals feel wonder, and many exhibit curiosity, the latter quality affording opportunity for hunters, in many parts of the world, to decoy the game into their power. The faculty of imitation, so strongly developed in man, especially in a barbarous state, is present in monkeys. A certain bull-terrier of our acquaintance, when he wishes to go out of the room, jumps at the handle of the door and grasps it with his paws, although he cannot himself turn the handle. Parrots also reproduce with wonderful fidelity the tones of voice of different speakers, and puppies reared by cats have been known to lick their feet and wash their faces after the same manner as their foster-mothers. Attention and memory are also present in the lower animals, and it is impossible to deny that the dreams of dogs and horses show the presence of imagination, or that a certain sort of reason is also present. Animals also profit by experience, as any man realises who

sets traps. The young are much more easily caught than the old, and the adults gain caution by seeing the fate of those which are caught. Tools are also used by some of the higher apes. The chimpanzee uses a stone to crack a nut resembling a walnut, and the Abyssinian baboons fight troops of another species, and roll down stones in the attack before they finally close in a hand-to-hand encounter. The idea of property is common also to every dog with a bone, to all birds with their nests, and notably in the case of rooks. Nor can a certain kind of language be denied to the brutes. The dog communicates his feelings by barks of different tones, which undoubtedly raise in his fellow dogs ideas similar to those passing in his own mind.—*Edinburgh Review*.

8. THE SONGS OF THE BIRDS.

There is a beautiful propriety in the order in which singing birds fill up the day with their pleasing harmony. The accordance between their songs and the aspect of nature, at the successive periods of the day at which they sing, is so remarkable that one cannot but suppose it to be the result of a benevolent design. First, the robin—not the lark, as has been generally imagined—as soon as twilight has drawn an imperceptible line between night and day, begins his artless song. How sweetly does this harmonize with the soft dawning of the day! He goes on till the twinkling sun beams begin to tell him that his notes no longer accord with the rising sun. Up starts the lark, and with him a variety of sprightly songsters, whose lively notes are in perfect correspondence with the gaiety of the morning. The general warbling continues, with now and then an interruption by the transient note of the raven, the scream of the jay, or the pert chattering of the daw. The nightingale, unwearied in the vocal exertions of the night, joins his inferiors in sound, in the general harmony. The thrush is wisely placed on the summit of some lofty tree, that its piercing notes may be softened by distance before they reach the ear; while the mellow blackbird seeks the lower branches. Should the sun, having been eclipsed by a cloud, shine forth with fresh effulgence, how frequently we see the goldfinch perch on some blossomed bough, and hear his song poured forth in a strain so peculiarly energetic, while the sun, shining on his beautiful plumes, displays his golden wings and crimson crest to charming advantage. Indeed, a burst of sunshine in a cloudy day, or after a shower, seems always to wake up a new gladness in the little musicians and incite them to answering bursts of minstrelsy. As evening advances, the performers gradually retire, and the concert softly dies away. At sunset the robin again sends up his twilight song, till the still more serene hour of night sends him to his bower of rest. And now, in unison with the darkened earth and sky, no sooner is the voice of the robin hushed, than the owl sends forth his slow and solemn tones, well adapted to the serious hour.

SCIENTIFIC NOTES.

RAIN FALL.—Prof. Henry says that the observations of the Smithsonian Institute, which extend over a period of twenty years, have as yet failed to confirm the popular belief that the removal of the forests and the cultivation of the soil tend to diminish the amount of rainfall.

TELEGRAPH WIRES.—A correspondent has been figuring up the miles of existing telegraph wires. It appears there are 450,000 miles in Europe, 180,000 in America, 14,000 in India, 10,000 in Australia, and 30,000 of submarine cable. Total, 684,000 miles, to which there are additions being made at the rate of 100,000 miles per year.

OPEN POLAR SEA.—The following is a translation of the information received at the Navy Department from Dr. A. Peterman, of Gotha: The telegram dated Oct. 3, 1871, which announces the return of Capt. Weyprecht and Lieut. Payer of the Austrian Army, states that in the month of September an open Polar sea was found from 42° to 60° east of Greenwich to the northward of 78° north latitude. The northernmost point reached was 79° north on the meridian 48° east. Here we found the most favourable state of ice towards the North Pole, with probable connection with the open sea, north of Siberia, toward the east. This appears to be the most favourable route toward the North Pole. Dr. Peterman remarks: the last part of this telegram I cannot understand, but I have reason to assume that Carland, which was discovered last year by the Count Zeil and Theodore Ven Heugheir, extends southward to 78° 12' north. The expedition was made in a small sailing vessel and at the expense of the officers. The *Polaris*, Captain Hall, and for the North Pole, left American waters recently.

She will stop *en route* at St. Johns, Newfoundland, for a supply of fresh seal oil, which takes the place of salt junk in the Arctic regions. Captain Hall will then push forward to his winter quarters in the ice pack which fringes the unexplored open sea around the Pole, and with the return of the sun in May next he will endeavour, by ship or by sledges, to reach the Pole. Another Polar expedition is about to be undertaken by Octave Pavy, a member of the French and American Geographical Societies. He believes that Capt. Hall's proposed Polar expedition is impracticable, and purposes to make an attempt himself to reach the North Pole by way of Behring's Strait. He will leave San Francisco on the 15th of July, thence proceeding to Petropaulsk, in Avatcha Bay, Kamchatka. Furs, dogs, three natives (making, with four Europeans, including a Russian and himself, a party of eight), and every necessary will be procured, and shipping taken to the north of the Gulf of Anadyr, whence the party will journey overland to Cape Jakan, on the north coast of Siberia, a distance of 300 miles. Pavy takes with him a boat made of gutta-percha, covered with canvas, and capable of floating five tons weight. He intends to keep up communication with the Russian post at Cape Jakan, by carrier pigeons, and is in correspondence now with the Russian Government with a view to secure the assistance of their officials in Siberia.

SIBERIAN DELUSION DISPELLED.—Mr. Barry's new book tells a different story about Siberia from the ordinary account of travellers. Parts of the enormous area of that country are almost uninhabitable, it is true, but in the regions through which Mr. Barry travelled the climate was everywhere "temperate and endurable," while a great part of it could boast of "a fine agricultural soil, a rich deep black loam," in which anything would flourish. The roads are "as good as those in any part of the Empire," and there is "plenty of pretty scenery, hill, wood, and water," and the posting-houses are "much better than those of many parts of the centre of Russia. The peasants are far more civilized and better educated than those of the other parts of the Empire." And there "woman takes her proper place, looking after her household and her children," instead of being left, as she is in central Russia, "to do the hard work and slave at field labour," while her lord and master drinks and sleeps. As to the mineral wealth of Siberia, it is something of which but a very small number of people have any idea, for at present only a few spots are worked, and those "most unsatisfactory, and under the worst possible management." It seems that "there is plenty of refined society to be met with in all Siberian towns, and the time of one's sojourn there always glides away pleasantly; and regularity and evenness of the climate being an addition to the enjoyment of life." To any one who is desirous of visiting that attractive country, it may be interesting to know that steamers ply daily from Nijny Novgorod to Perm, "doing the distances pleasantly in a week," and the boats are "kept very clean," their provisions "are plentiful and good, and their tariff of charges is moderate."

IRON AND STEEL.—From microscopic examinations of iron and steel, Mr. Schott, of Washington, infers that he can thus determine their various qualities; the height of the crystal pyramids, relatively to the sizes of their bases, and the arrangement of these crystals differing in different specimens.

BARON KRUPP has constructed a model of a new cannon, which, it is said, will batter down the heaviest ramparts at a distance of 13 kilometres, or about nine miles. For the founding of the monster guns great changes have been introduced in the forges of Essen, and several colossal steam hammers have been set up, the cost of each exceeding four millions of francs.

GERMAN TORPEDOES.—During the war the strictest secrecy was observed respecting the torpedoes with which the German coasts were protected, but now further information has been laid before the public. Electrical torpedoes and those exploded by concussion were both employed. The latter were charged with seventy-five pounds of powder, and sunk to a depth of about three feet below the surface of the water. Those exploded from the shore by means of electricity were loaded with two centners of dynamite, a charge which is equal to ten centners of powder. They were sunk at a depth of about eight feet. The torpedoes which the Grille attempted to place under the keels of the enemy's vessels were not a new invention, but the old offensive concussion torpedoes, fourteen inches in diameter, and two feet in length, which did not prove very effective. Indeed the war threw but little light on any question connected with these submarine defences. At Pillau, torpedoes charged with four centners of powder were improvised. A company for laying and exploding these engines of war was formed at Kiel. In sinking and taking them up three accidents occurred, and fourteen lives were lost.

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1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for JANUARY, 1872.

OBSERVERS:—*Pembroke*—R. G. Scott, Esq., M.A.; *Cornwall*—James Smith, Esq., A.M.; *Barrie*—H. B. Spotton, Esq., M.A.; *Peterborough*—J. B. Dixon, Esq., M.A.; *Bellefleur*—A. Burdon, Esq.; *Goderich*—Hugh J. Straug, Esq., B.A.; *Stratford*—C. J. Macgregor, Esq., M.A.; *Hamilton*—J. M. Buchan, Esq., M.A.; *Simcoe*—Dion C. Sullivan, Esq., LL.B.; *Windsor*—J. Johnston, Esq., B.A.

[illegible]

Approximation.
dOn Lake Simcoe. nOn Lake Ontario.
eNear Lake Ontario on Bay of Quinte. sOn St. Lawrence.
gOn Lake Huron. aOn Lake Ontario.
iOn the Ottawa River. fClose to Lake Erie.
mOn the Detroit River. kInland Towns.

* No observation on 5th and 6th, imperfect observation on 4th.

[illegible]

Where the clouds have contrary motions, the higher current is entered here.

Velocity is estimated, 0 denoting calm or light air ; 10 denoting very heavy hurricane

REMARKS.

CORNWALL.—Wind storm, 25th. Snow, 4th, 6th, 19th, 20th, 28th, —
st. Fall of snow during the month remarkably small.
BARRIE.—Snow, 3rd, 11th, 13th, 15th, 19th, 21st, 22nd, 24th, 25th,
th. 30th; on 26th, lunar halo.

Mr. O'Beirne who has for many years performed the duty of observer with singular accuracy and regularity, is now succeeded by Mr. Dixon with the head master of the Collegiate Institute. Wind storm, 12th. Fog 3d, 4th and 20th. Snow. 3rd, 4th, 11th, 13th, 15th, 16th, 18th—24th, 25th—31st. Rain. 19th. On 13th, lunar circle at 6 p.m., but sky clear at 10; the circle filled with grayish clouds. A similar circle on 26th. Snow not deep, but gleaming good throughout the month.

BELLEVILLE.—Wind storms, 11th, 29th. Snow, 3rd, 4th, 19th—24th, 25th, 29th.

GOODRICH.—Snow, 13th, 15th, 17th—27th, 30th.

STRATFORD.—Wind storms, 11th, 24th, 26th, 28th. Snow, 6th, 13th, 14th, 18th, 19th, 22nd, 24th, 28th, 29th. Rain, 3rd, 11th. Difference of monthly mean temperature from average of 11 years—0°·32.

HAMILTON.—Wind storm, 11th, 26th. Snow, 6th, 13th, 15th, 16th, 19th, 24th.

18th, 19th, 21st—25th, 27th—31st. Rain, 3rd, 4th, 11th. On 1st a meteor seen in evening, direction N—S, near Zenith, visible for about 20°. SIMCOX.—Snow, 15th, 18th, 19th, 22nd, 23rd, 24th, 27th. Rain, 3rd. Diphtheria very prevalent and severe. WINDSOR.—Wind storm, 11th, 24th, 29th. Snow, 13, 15, 18, 19, 21st. Rain, 3rd.

VII. Miscellaneous.

FOUR PICTURES.

I.

An angry sea, and a sullen sky,
A muttered threat in the wind's deep roar,
A sea-gull fluttering with startled cry,
As fast and furious the rain-drops pour,
A brave ship flying, and cold lips sighing,
"God have mercy!" and then, no more!

II.

A gleam of light on the tall church spire,
A shepherd's song, on the distant hill;
A blaze, red-tinged, from the forge's fire,
One lonely star, shining clear and still,
And never sleeping, her calm watch keeping,
The moon looks down on the forest rill.

III.

A white face close to the window's pane,
And two sad eyes on the busy street,
Watching patiently, once and again,
For the absent one they shall never greet,
And hot tears falling, and voices calling,
"Love is bitter, and death is sweet!"

IV.

A heavy head on the pillow laid,
And snowy flowers, strewn one by one,
A still cold smile, on the lips that prayed,
Two tired hands folded, and labour done—
And now forever, across the river,
Lonely, and fearless, our dear one's gone.

"MARY."

RULES SUGGESTED FOR THE GUIDANCE OF LIFE.

1. Begin and close every day with prayer to God and reading a portion of Scripture.
2. Make the glory of God the chief object of your existence.
3. Think of God more than any one or any thing else.
4. Love God supremely.
5. Be regular in attending the means of grace, and beware of allowing trifling ailments to keep you away.
6. Engage in some Christian work, such as Sabbath-school teaching, tract distribution, or visiting.
7. "Remember the Sabbath Day, to keep it holy."
8. Abstain from all intoxicating liquors as a beverage.
9. Remember that God's eye is watching you night and day, and act accordingly.
10. Always do what, after mature consideration and prayer, you believe to be your duty, and leave the results with God.
11. Keep your mind constantly occupied with some good and useful subject.
12. Never read a doubtful book.
13. Keep your appetites and passions in constant subjection.
14. Aim to comfort your parents in their old age.
15. Never waste the smallest portion of time.
16. Con every day's work and duties the day before.
17. Do every thing well.
18. Never put off till to-morrow what can be done to-day.
19. Seek to do some good to others every day.
20. Cultivate a cheerful disposition.
21. Never indulge in or countenance foolish speaking.
22. Always think before you speak.
23. Avoid detraction. Never say behind persons' backs what you would not say before them.
24. Abstain from flattering others.
25. Avoid asking favours of others.
26. Have as few artificial wants as possible.
27. Never go into debt. "Owe no man any thing."
28. Depend as little as possible on others for happiness.
29. Strive constantly to set a good example to all around you.
30. Increase your capacity for usefulness by careful attention to your health, diet, and cleanliness.
31. Give a fixed portion of your income to the cause of Christ.—*C. H. in Friendly Visitor.*

COLLEGE PRESIDENT TO YOUNG MEN.

The new President of Yale College at his recent inauguration gave the following advice to the students for that institution:—

Young men, you are the architects of your own fortunes. Rely upon your own strength of body and soul. Take for your star, self reliance, faith, honesty, and industry. Inscribe on your banner, "Luck is a fool, pluck is a hero." Don't take too much advice—keep at your helm and steer your own ship, and remember that the great art of commanding is to take a fair share of the work. Don't practice too much humanity. Think well of yourself. Strike out. Assume your own position. Put potatoes in a cart, over a rough road, and small ones go to the bottom. Rise above the envious and jealous. Fire above the mark you intend to hit. Energy, invincible determination, with a right motive, are the levers that move the world. Don't drink. Don't chew. Don't smoke. Don't swear. Don't deceive. Don't read novels. Don't marry until you can support a wife. Be in earnest. Be self-reliant. Be generous. Be civil. Read the papers. Advertise your business. Make money, and do good with it. Love your God and fellow man. Love truth and virtue. Love your country and obey its laws.

SMOKERS.

It is long since James First denounced smoking as a vice "disgusting to the nose, harmful to the brain, and in the black Stygian smoke thereof most nearly resembling that of the pit that is bottomless." Still the "weed" is in favour, and an ever-increasing multitude worship while they burn their idol with might and main, in spite of all arguments and remonstrances to the contrary. The votaries of this narcotic seem to think that they must use it at all times, in all places, and in all companies. Who, but a perfectly selfish heathen, would ever go into a second class railway car and puff that foul smoke of theirs in the faces of poor sick or delicate women and children, or even men, who must submit to constant relays of such fumigation simply because they are poor, and that for days? Yet this is every day done by smokers that call themselves gentlemen! The same thing at railway stations. Non-smokers for the next five months will have only the poor alternative of staying in the stations of any railway in Canada and being choked or going out and being frozen. Ugh! The very memory of what one has suffered from vile tobacco and cabbage cigars at these stations is enough to make nausea return. But it is of no use. "No smoking" flourishes everywhere on the walls, while smoking flourishes everywhere over all the premises.

The *Dublin University Magazine* for September takes up the subject on its bearing on disease, but it might spare its pains. It shows from statistical tables that in Germany, Holland, United States and England, tobacco costs more than bread. The sum spent in England alone in 1868 on tobacco and snuff we are assured was £11,438,290. It is shown that it is poisonous, and produces morbid affections of a very formidable character, "Locomotorotaxy" is one disease specified; the name alone is sufficient to frighten any one, and when it is explained to mean a general paralysis of the nerves, the fear ought to be increased.

A goodly list of other afflictions resulting from the use of the weed is given, such as:—Giddiness, sickness of the stomach, dyspepsia, diarrhoea, angina pectoris, liver complaint, heart complaint, pancreas complaint, nervousness, amaurosis, paralysis, apoplexy, atrophy, deafness, nausea, ulceration of the gums, cheeks, and mucous membrane of the throat, hysteria, hypochondriasis!

All right! says the confirmed smoker, but I must "blow my cloud." There is not a doubt that this tobacco mania is doing more than almost anything else to intensify the nervous dyspeptic character of the generations.

It is a pity that it should be so, but we suppose the reply to all arguments and to all statistics is ready. "I fear I can't answer—but—I must have my smoke." Well for pity's sake, at any rate, be as much of a gentleman as not to make your fellow travellers utterly miserable in public places, and public conveyances, by indulging, while in their company, in, to them, your abominable and selfish luxury.—*Globe.*

CHARACTERISTICS OF COURTESY.

It may, perhaps, be questioned whether, in a state of society like our own, roughness and coarseness of manner are always the sign of a want of kindness of spirit. The tree is, no doubt, known by its fruit, but it sometimes happens that a man has grown up in circumstances which hardly gave his better nature fair play. The vine may be of a good sort, but if some of its branches never get warmth or sunlight, the grapes which hang upon them will be very sour; and if a man has lived very much among harsh and boisterous people, he is very likely to have acquired habits and modes of

speech which may be far from representing his real nature and spirit. And I have known men, gentle at heart, who, through living with rough companions, have wilfully cultivated a roughness and even a positive offensiveness of manner, which rendered it intolerable for strangers to have much to do with them. Others acquire the same manner unconsciously. The prevailing spirit and the common habits of the people about us have, perhaps, almost as much to do with the formation of our manner and bearing, as our own disposition; and we shall often be greatly mistaken if we suppose that a man who speaks and acts discourteously, is deficient in right feeling. There is, indeed, a certain refinement and perfection of courtesy, which is the result of successive generations of culture and ease, and of intercourse with people of distinction. It requires a very felicitous temperament, and very felicitous circumstances. But even in the higher ranks of English society, it is said that the grace and dignity and gentleness of which I am speaking are comparatively rare. I remember that Mr. Arthur Helps dwelt upon the perfection of manners which characterized the late Earl of Clarendon as one of his most remarkable qualities, although he was also distinguished for a certain measure of genius, for great practical sagacity, and for an extraordinary knowledge of foreign affairs. This exquisite Courtesy—a beautiful and invaluable thing in its way—is not to be looked for among ordinary people. It is one of the fine arts. It is almost as rare as the higher forms of eloquence. A faultless refinement of manner is no more possible to most of us, than white and soft hands are possible to a ploughman or smith. We must be content with something less perfect and charming. It is enough if we cultivate a right spirit in our treatment of other men, and if we remember habitually that it is a duty to treat all men courteously. Discourtesy is, I fear, a very common sin among Christian people, and it arises, principally, from serious defects in our Christian life. we speak to men harshly; we are irritable and impatient; we are domineering; we wound their feelings; we sneer at them; we treat them contemptuously; we make an ostentatious use of our power over them; we compel them to feel—and we do it intentionally—that we attach not the slightest value to their judgment; and that we have no desire to give them pleasure. I do not know that those who are guilty of these offences are likely to be much influenced by the consideration of the pain and annoyance which they inflict on others by this treatment of them; and yet they ought to remember that a great part of the misery of the world arises from the wanton disregard of the claims of every man to consideration and respect.

VIII. Educational Intelligence.

—SOUTH HASTINGS TEACHERS' ASSOCIATION.—At the recent meeting of this Association, Prof. Macoun then introduced the subject, "How far should the teacher assist the pupil," by stating that the education of a person commenced when but a few days old, and only ceased with their existence; that education was not confined to the school-room, but that the child is being educated at home and on the street, and that there are many schools besides those bearing that name. Some are held on the corner of the street, others in the Churches, and others again in the rooms of the Young Men's Christian Association. He also stated that all teaching should be by induction, and that moral training should be first mental, and then physical; that many teachers failed from overteaching, being too indulgent; that teaching means communicating ideas; that the child should be taught to think, taught to rely upon and use its own powers. Tact in teaching is the art of communicating knowledge so that the pupil can comprehend the idea, and that no difficulty should be told a child, but that it should be encouraged to overcome these obstacles. There are three systems of teaching in this country: 1st, the old, or rote system; 2nd, the cramming system, which is an improvement on the first method; 3rd, the thinking or intellectual system, which is the true method of teaching. The rote system as still pursued to a great extent in our Sabbath Schools, is decidedly wrong, the child repeating Sabbath after Sabbath a number of verses without ever attaching any ideas to what it is saying. To teach properly is to train the child to originate ideas. The Prof. then proceeded to give a general view of his method of teaching, stating that text-books were only aids in teaching, and that the teacher should not trust to the supposed knowledge of the child, but should satisfy himself that it thoroughly understands what it is endeavouring to learn.

He should do what is right and leave the results with God—do everything in the fear of God, taking the Bible for his guide, and God will assist him. Prof. J. T. Bell then delivered his lecture, "Science vs. Classics," before the Convention, having previously been elected an Honorary Member of the Association. It is impossible here to give even a brief resume of the lecture. Suffice it to say that the lecturer, in an able and eloquent manner, for more than an hour, proceeded to prove the superiority of the study of Science over the Classics, for improving the mind, drawing out the finer faculties, and extending the sphere of our usefulness. The lecturer was frequently applauded during his discourse, and the lecture itself was certainly an intellectual treat, every line of it seemed replete with instruction, and every sentence to afford ample food for thought. The Convention then proceeded to elect their officers for the ensuing year as follows:—President—J. Johnson, Inspector of Schools. Vice-President—Prof. Macoun, M.A. Secretary—J. C. Squier. Treasurer—W. G. McLachlin. Corresponding Secretaries—Prof. McGann, C. P. Kellogg, S. A. Gardner. The meeting, which was the most interesting, instructive, and successful one that the Association has yet held, then closed. Over seventy persons were present. Much credit is due the Inspector for the energetic manner in which he has worked to bring the Association up to its present standing.

—PRESBYTERIAN COLLEGE ENDOWMENT.—The general Assembly of the Canada Presbyterian Church at its recent sitting adopted the following resolutions of a Sub-Committee:

I. The Sub-Committee having read the resolution of the General Assembly relating to the effort to be made to raise \$250,000, and understanding that it contemplated that the amounts already received and invested towards the endowment of the two Colleges, should be thrown into the General Endowment Fund in connection with the effort to raise the amount specified, and with a view to its equal division between the Colleges, is of opinion that the movement in its present form to endow the Colleges can only be successful by adhering to and acting on this understanding. II, The Sub-Committee is of opinion that there should be at the very earliest period in each college not less than four professorships for the following departments, viz.: Systematic Theology, Exegetical Theology and Biblical Criticism, Apologetics, Church History, Homiletics, Pastoral Theology and Church Government. III. The Sub-Committee recommends that the subscriptions should be made payable in three equal annual instalments or six semi-annual instalments, and that no payment shall be called for until \$200,000, including the amounts on hand, be subscribed. IV. (a) The Sub-Committee is further of opinion that it would contribute to the success of the movement if a special trust was constituted by the General Assembly for the purpose of holding and investing the endowment fund, and of distributing the proceeds to the boards of management of Knox College, Toronto, and of the Presbyterian College, Montreal, in such parts that including in this estimate the proceeds of the moneys already invested by the boards of the respective colleges for ordinary college purposes the colleges shall be possessed of the same revenue from these sources. (b). The Sub-Committee recommends that the Trust should consist of five persons elected by the Assembly, two of whom should retire each year, and be ineligible for re-election until a year thereafter. (c). The Sub-Committee recommends that the money should be invested in unquestionable securities, such as government or county debentures, more with a view to absolute security than a high rate of interest. (d). The Sub-Committee further recommends that a professional accountant should be appointed to audit the accounts, and to report to the General Assembly from year to year. V. The Sub-Committee is of opinion that it should be an understanding that the capital fund of the endowment should not be infringed upon for any purpose, and that no part of the annual increase therefrom be applied to any other purpose than the payment of the salaries of the Professors and officers of the colleges at Toronto and Montreal, or the increase of the capital funds. VI. That the following persons be requested to visit the cities and larger towns of Quebec for the purpose of soli

citing contributions from the members and adherents of the church in these places towards the endowment of the colleges, viz.: For Montreal and Quebec, Drs. Topp and McVicar; Toronto, Rev. Wm. McLaren and Hon. George Brown; Hamilton, Prof. Inglis and Mr. King; London and Brantford, Dr. Waters and A. Skinner, Esq.; Ottawa, Kingston and Belleville, Mr. Cochrane; Guelph and Galt, Mr. Moore and Professor Caven—the canvass of the above mentioned places to be completed, if possible, before the second week of January, 1872. VII. That a Sub-Committee consisting of five persons be formed, one in Montreal and one in Toronto, whose duty it shall be to arrange for the visitation of every congregation in the church within their respective districts, by a minister or laymen, for the purpose of taking up subscriptions in concert with Presbyteries and members of the committees.

—BLANDFORD PUBLIC SCHOOL.—The competitive examination the schools of the above municipality took place according to announcement. Quite a large assembly of children, parents, trustees and teachers assembled. Dr. A. J. Campbell, of East Oxford, and Wm. Carlyle, Esq., County Inspector, conducted the examination, and a very comfortable lunch was provided in the afternoon. Mr. Carlyle, and Dr. C. each addressed the audience at the close of the examination. The last mentioned, announced that his intentions were to bring before the municipal council, the propriety of providing a medal for the township, to be annually competed for. The whole affair was a perfect success, making due allowance for the inclemency of the weather, and considering it to have been a postponed meeting, owing to the stormy nature of the day on which the primary appointment was made. We congratulate Dr. Campbell on the success of this his second effort. Competitive examinations, such as those provoked by our worthy friend, have much to commend them to our notice, and if the council of the township would accept the suggestion, and award a medal, we have no doubt it will supply a further incentive, and go far to establish these competitive examinations as a feature in our school system. —*Woodstock Times*.

—OTTAWA.—The Ottawa Citizen says a movement for the establishment of a Normal School at Ottawa city has been set on foot and will be vigorously prosecuted. There are many reasons certainly why such an institution should be established at the Capital, and we hope to see the idea carried to a successful issue by those who have taken it in hand.

—QUEBEC TEACHERS.—At the Annual Convention of the Protestant Teachers' Association of the Province of Quebec, in his inaugural address the President, Professor Graham, spoke of the advantages of graded schools, and advocated their establishment in the Province. Rev. Professor McKay read a paper on the etymology of words, and Prof. Hincks, of McGill Normal School, a paper on "Teachers' means of professional improvement." These subjects were discussed by Mr. Treasurer Robertson and others.

—ROMAN CATHOLIC EDUCATION IN ENGLAND.—The London *Weekly Dispatch* of the 18th ultimo says: "A public meeting was held on Thursday, at Willis' Rooms, in order to receive the report of the committee engaged in promoting Roman Catholic education in Great Britain. The Duke of Norfolk presided. The honorable secretary, Mr. Allies, read the report, by which it appeared that £47,000 had been subscribed during the past year; that the Roman Catholic population of Great Britain is about a million and-a-half; that 138,000 children are at school, and that 92,000 still require to be provided for. During the last year one hundred and thirty new schools were built, thirty-four were enlarged and sixteen hired. It was also stated that, in addition to the sum named above, local efforts had produced about £65,000. The Marquis of Bute moved a resolution in favour of a continued action, and said that he had hope for the future of Catholicity in England. Several other speakers addressed the meeting; the report and the resolutions were adopted, and the usual vote of thanks having been passed, the proceedings terminated."

—RUSKIN has endowed a professorship of drawing in an English school, feeling the want of such instruction himself

—RUGBY.—The Senate of the University of London have created great dissatisfaction in Church circles by their nomination of Dr. Temple, Bishop of Exeter, as one of the Governors of Rugby School.

—QUEEN'S UNIVERSITY.—The convocation of the Queen's University, Dublin, agreed to a report opposing the introduction of a denominational system of education into the Irish University.

—Professor Geikie has been appointed to the Chair of Geology and Mineralogy in the University of Edinburgh.

—GLASGOW UNIVERSITY.—Mr. Disraeli has been elected Lord Rector of the University of Glasgow, over Prof. John Ruskin, who also was nominated for the honour.

—SIR R. CHRISTISON.—Dr. Robt. Christison, Professor of Materia Medica in the University of Edinburgh, has had the honour of a Baronetcy conferred upon him. That the honour of a Baronetcy should be conferred on him is due to his distinguished service to the University, to medicine, and to science.

—CORNELL UNIVERSITY is to teach literature by a five years course, designed to be a preparation for journalism.

XI Departmental Notices.

FIRST-CLASS CERTIFICATES OF QUALIFICATION GRANTED BY THE COUNCIL OF PUBLIC INSTRUCTION.

Dated May 26th, 1871.—(Special Examination.)

GRADE A.

Alexander, W.
Burrows, F.
Clapp, D. P.
Gordon, N.
Hilliard, T.
Kidd, W. G.
Little, R.
Miller, J. R.

McCaig, D.
McCauland, W. J.
McFaul, J. H.
McKinnon, D. J.
Ross, G. W.
Somerset, J. B.
Tilley, W. E.
Willis, R.

Dated September 12th, 1871.

GRADE A.

Cameron, John
Hay, Andrew

Ross, A. M.
Ross, W. H.

GRADE C.

Mactavish, P.
Rae, A. M.
Thompson, J. C.

Tod, A.
Woodhull, T. B.

Dated January 26th, 1872.

GRADE A.

Derness, John

Hands, Jonathan G.

GRADE C.

Brown, Arthur
Davis, Percy S.
Emerson, Samuel

McColl, Malcolm Chas.
Nugent, Matilda

3. CONDITIONS REQUIRED OF CANDIDATES FOR CERTIFICATES OF QUALIFICATION AS TEACHERS.

1. To be eligible for examination for a third class (county)-certificate, the candidate, if a female, must be 16 years of age; if a male, must be 18 years of age; and must furnish satisfactory proof of temperate habits and good moral character.

2. Candidates for second class (Provincial) certificates must furnish satisfactory proof of temperate habits and good moral character, and of having successfully taught in a school three years, except in the special cases hereinafter provided.

3. Candidates for first class (Provincial) certificates must furnish satisfactory proof of temperate habits and good moral character, and of having successfully taught in a school five years, or two years if during that period he has held a second class certificate, granted under these regulations.

EXPLANATORY NOTE.—1. Attendance at the Normal School for Ontario, with the required practice in the Model Schools,

and passing the requisite examinations for a First Class Certificate, shall be considered equivalent to teaching five years in a public or private school. So, also, attendance at the Normal School, with the required practice in the Model Schools, and passing the requisite examinations for a Second Class Certificate, shall be considered equivalent to teaching three years in a public or private school.

2. In regard to teachers in French or German settlements, a knowledge of the French or German Grammar respectively may be substituted for a knowledge of the English grammar, and the certificates to the teachers expressly limited accordingly.

VALUE AND DURATION OF CERTIFICATES.

The certificates to be awarded under these regulations are :

First Class Certificates, Grade A.
Do. do., Grade B.
Second Class Certificates, Grade A.
Do. do., Grade B.
Third Class Certificates.

1. First and Second Class Certificates are valid during good behaviour and throughout the Province of Ontario ; and a First Class Certificate of the highest grade (A), renders the holder eligible for the office of County Inspector.

2. Third Class Certificates are valid only in the county where given, and for three years, and not renewable, except on the recommendation of the County Inspector ; but a teacher, holding a Third Class Certificate, may be eligible in less than three years, for examination for a Second Class Certificate, on the special recommendation of his County Inspector.

PUBLIC SCHOOL TEACHERS' EXAMINATION.

In accordance with the General Regulations on the subject, the Examination of Candidates for Public School Teachers' Second and Third Class Certificates, will be held (D.V.) in each County Town of Ontario, commencing on MONDAY, 16th JULY, at 9 a.m.

The Examinations for FIRST-CLASS CERTIFICATES will be held at the same place, commencing on TUESDAY, 23rd JULY, at 9 a.m.

Candidates will be required to notify the Inspector not later than the 25th JUNE, of their intention to present themselves for examination ; and the Inspector will inform the Department not later than the 28th of JUNE, of the number of Candidates for each Class of Certificates, as the Examination Papers cannot be printed off until this information shall have been received from every one of the Inspectors. The omission of one Inspector to give this information as requested may delay the printing and despatch of the whole of the Examination Papers.

The Normal School Students will be examined in their respective counties, with the other candidates.

NOTICE TO CANDIDATES FOR CERTIFICATES, RESPECTING THE EXAMINATION IN THE SUBJECT OF NATURAL PHILOSOPHY.

Candidates, for *second class certificates*, will be examined in statics, hydrostatics and pneumatics. They are referred to "Peck's Ganot," but it is recommended that on the subject of statics, that part of "Tomlinson's Rudimentary Mechanics," which relates to the mechanical powers, be also consulted.

As the examination will be on the subject generally, those who have already provided themselves with Dr. Sangster's work, will find the necessary information in it.

Candidates, for *first class certificates*, will be examined in statics, dynamics, pneumatics, hydrostatics and hydrodynamics. They are recommended to consult, besides "Tomlinson's Rudimentary Mechanics," the "Manual of Mechanics," by Rev. Samuel Haughton, M.D.

mentary Mechanics," the "Manual of Mechanics," by Rev. Samuel Haughton, M.D.

NOTE.—The highest standard in all subjects will be maintained for first class certificates.

Candidates are strongly advised to procure copies of the examination papers used at previous examinations, as they will be of material assistance in indicating the kind of examination they will be required to undergo. Bound copies may be procured at the Depository at 60 cents per set, free of postage, or 50 cents exclusive of first class papers.

TEXT BOOKS FOR FIRST CLASS TEACHERS.

To the Editor of the Journal of Education.

As I have received a considerable number of letters in regard to the text-books which should be studied or consulted by teachers who intend to offer themselves as candidates for First-class Certificates, I think it may be well to insert a letter on this subject in the Journal of Education.

The examination papers will be framed, as far as possible, in such a manner that a well-instructed candidate shall be able to answer them, from whatever source his information may have been obtained. The other examiners agree with me in thinking that what should be sought to be ascertained, is, not a candidate's acquaintance with details peculiar to any one text-book, but his general knowledge of the subjects of examination.

At the same time, as the Council of Public Instruction has prescribed or recommended certain text-books in connection with particular subjects, respect will be had to these in framing the examination papers. As a rule, no question will be asked, which lies beyond the range of the books prescribed. If any questions beyond this range should be put, they will not be taken into account in determining the total value of the paper in which they occur ; and they will thus, while doing an injury to no candidate, serve the purpose of rewarding superior attainments.

I have been asked specially regarding Geography, Algebra, Mensuration, Natural Philosophy, and Chemical Physics. In Geography, the prescribed text-books are Lovell's Geography and Keith on the Globes. In Algebra, the prescribed text-book is Sangster's Algebra ; but any other work, that treats of the subjects discussed in Sangster, will do equally well :—for example, Colenso's Algebra. In Mensuration, Sangster's treatise is sanctioned for the Normal School ; and the work in the Irish National series, for the Public Schools. Either of these may be studied. In Natural Philosophy, the Council of Public Instruction recommend candidates for First-class Certificates to consult Haughton's Manual of Mechanics, and Tomlinson's Rudimentary Mechanics. Some portions of the former of these works are too advanced for the generality of candidates ; but a judicious student, by omitting sections in which advanced mathematics are used, may derive much benefit from a perusal of the other parts. Candidates for Second-class Certificates may consult Peck's Ganot and the chapter in Tomlinson's Mechanics on the Mechanical Powers.

On Chemical Physics, the chapter in Peck's Ganot, which treats of Light, Heat, and Electricity will be found sufficient.

I am, Sir,

Your obedient servant,

GEORGE PAXTON YOUNG.

Toronto, 16th April, 1872.

SCHOOL LAW LECTURES.—Part I.

The Law and Official Regulations relating to Public School Trustees in Rural Sections—Public School Meetings—Selection of School Sites—Erection of School Houses—Levying Rates—Collectors—School Auditors—Arbitrations—Awards—Non-residents—Public School Teachers—Relation of Inspectors to Teachers—Duties of Pupils—Terms and Vacations—Examination of Teachers—Superannuation Fund, &c. Part II will contain the law relating to Township, City, Town and Village Councils ; City, Town and Village Boards of Trustees ; Inspectors, &c.

With Decisions of the Superior Courts thereon :

Being the substance of Lectures to Normal School Students, by J. GEORGE HODGINS, Esq., LL.D., Barrister at Law, Price 50 cents : Free by post, 55 cents. The Trade supplied. Send orders to

COPP, CLARK & CO.

Toronto, April, 1872.

17 & 19, King St. East.

IN PRESS, PART II :

Relating to Township, Town, City, Village, and County Municipalities. Boards of Trustees in Cities, Towns and Villages, etc., etc.

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I.—COMPREHENSIVE COURSE OF STUDY FOR THE PUBLIC SCHOOLS.

(From the Chief Superintendent's last Annual Report.)

1. In dealing with this most important question, and in laying down a few general rules in regard to it, the following weighty words of the Bishop of Manchester, in his admirable report on the "School Systems of the United States and Canada," are highly suggestive:—

"The mistake that is commonly made in America, is one, I fear, that is taking some root in England—a confusion of thought between the processes that convey knowledge, and the processes that develop mental power, and a tendency to confine the work of the school too exclusively to the former. It is, perhaps, the inevitable tendency of an age of material prosperity and utilitarian ideas. Of course, the processes of education are carried on through *media* that convey information too, and a well educated man, if not necessarily is, at any rate, almost necessarily becomes a well informed man. But in my sense of things, the work of education has been successfully accomplished when a scholar has learnt just three things—what he really *does* know, what he does *not* know, and *how* knowledge is in each case acquired; in other words, education is the development and training of *faculties*, rather than to use a favourite American word, the "presentation" to the mind of *facts*. What was Aristotle's conception of the man whom he calls—'thoroughly educated?' Not, I take it, a man of encyclopædic information, but a man of perfectly trained and well-balanced mind, able to apply to any subject that may oc-

cupy his attention, its proper methods, and to draw from it its legitimate conclusions. Hence the proper functions of a sound system of education are to quicken the observation, strengthen the memory, discipline the reason, cultivate the taste; and that is the best system which gives to each faculty of our complex nature its just and proportionate development."

2. In the programme of studies, and limit table, adopted after due consideration, for our Schools in Ontario, the subjects essential to a good Public School education are prescribed and classified, as also the number of hours per week of teaching each subject; but the mode or modes of teaching and illustrating the several subjects specified in order, is left to the independent exercise of the genius and talents of each teacher. In preparing this programme, the Reports of the latest Royal Commissioners of England on Popular Education, and the opinions of the most experienced educationists, have been consulted. It will be seen from the number and order of the subjects, and the time prescribed per week for teaching each of them, that the first years of Common School studies are almost entirely devoted to teaching the three primary and fundamental subjects of a good education—reading, writing and arithmetic, including only such other subjects and to such a degree, as to relieve the pupils from the tedium of the more severe and less attractive studies, and to develop their faculties of observation and taste for knowledge, as suggested by the largest experience of the most advanced educators. The subjects of the programme are limited in both number and range to what is considered essential, and to what experience has proved can be thoroughly mastered by pupils of ordinary capacity and diligence within thirteen years of age. The thorough teaching of a few subjects, within practical limits, will do more for intellectual development, and for the purposes of practical life, than the skimming over a wide range of topics. The subjects of Natural Science required by the thirteenth section of the new School Act to be taught in the schools and provided in the programme, are such, and are prescribed to such an extent only, as is absolutely necessary for the advancement of the country, —in agriculture, the mechanical arts, and manufactures, apart from science and literature. And when the cheap and excellent text-books prescribed are examined in connexion with the subjects specified, it will be found that nothing has been introduced which is impracticable, or for mere show, but every-

thing for practical use, and that which admits of easy accomplishments.

II.—EDUCATION DIRECTED TOWARDS THE PURSUITS AND OCCUPATIONS OF A PEOPLE.

On this subject, Dr. Playfair gives the following striking illustration. He goes on to say :—

"The great advantage of directing education towards the pursuits and occupations of the people, instead of wasting it on dismal verbalism, is that, while it elevates the individual it at the same time gives security for the future prosperity of the nation. There are instances of nations rich in natural resources of industry, yet poor from the want of knowledge how to apply them; and there are opposite examples of nations utterly devoid of industrial advantages, but constituted of an educated people who use their science as a compensation for their lack of raw material. Spain is an example of the first class, and Holland of the second. Spain, indeed, is wonderfully instructive, and her story is well told by Buckle, for you see her rise in glory or fall in shame, just as there are conditions of intellectual activity or torpor among her inhabitants. Sometimes animated with life, Spain seeks a high position among nations; at other times she is in a death-like torpor. She is an apt illustration of that sentence: 'He that wandereth out of the way of understanding, shall remain in the congregation of the dead.' The Jews brought into Spain their habits of industry, and later, the Moors introduced the experience and science of their time; and they took root even in a country devastated by wars between Christians and Mahomedans. But Spain committed two great national crimes—the expulsion of the Jews at one time, and of the residue of the Moors at another. The last crime of 1609, by which 1,000,000 of Moriscos were thrust forth from the kingdom, was avenged by suddenly depriving Spain of the accumulated industrial experience and science of centuries. After that act, education was only allowed so far as it did not interfere with ecclesiastical fears, and the country fell into a state of abject misery and dejection. A century after, the Duke de St. Simon, then French ambassador at Madrid, declared that science in Spain is a crime, and ignorance a virtue. During the next century, there was a period of three generations when foreign science and experience were imported by the Spanish kings, and the country began to rise again to some condition of education and prosperity. But in the last half-century it has relapsed, ecclesiastical power having again assumed its old sway, and Spain has returned to a position of obscurity, from which, let us hope, she may emerge by her late revolution. For this nation has everything in the richest profusion to make it great and prosperous. Washed both by the Atlantic and Mediterranean, with noble harbours, she might command an extensive commerce both with Europe and America. Few countries have such riches in the natural resources of industry. A rich soil and almost tropical luxuriance of vegetation might make her a great food-exporting nation. Iron and coal, copper, quicksilver and lead abound in profusion, but these do not create industries, unless the people possess knowledge to apply them. When that knowledge prevailed, Spain was indeed among the most advanced of industrial nations. Not only her metallurgic industries, but her cotton, woollen and silk manufactures were unequalled; her shipbuilding also was the admiration of other nations. But all have decayed because science withers among an uneducated people, and without science nations cannot thrive. Turn to Holland, once a mere province of Spain. She has nothing but a maritime position to give her any natural advantage. Not so bad, indeed, as Voltaire's statement, that she is a land formed from the sand brought up on the sounding-leads of English sailors, though she is actually created from the debris of Swiss and German mountains brought down by the Rhine. Hence within her lands are no sources of mineral wealth; but she has compensated for its absence by an admirable education of her people. For my own country, I have no ambition higher than to get schools approaching in excellence to those of Holland. And so this mud-produced country, fenced round by dykes to prevent the ocean from sweeping it away, is thriving, prosperous and happy, while her old mistress—Spain—is degraded and miserable, unable in all Europe until lately to find a King who would undertake to govern her ignorant people."

III.—THE NEW SUBJECTS OF AGRICULTURE, COMMERCIAL INSTRUCTION, MECHANICS, DRAWING, PRACTICAL SCIENCE AND NATURAL HISTORY.

1. I may remark that one great object of the new School Act was to make our Public Schools more directly and effectively subservient to the interests of agriculture, manufactures and mechanics.

2. In my first special report on "a system of Public Elementary Education for Upper Canada," laid before the Legislature in 1846, I stated the institutions necessary for these purposes; and in the

concluding remarks of my last two annual reports, I have expressed strong convictions on the subject. When we consider the network of railroads which are intersecting, as well as extending from one end to the other of our country, the various important manufactures which are springing up in our cities, towns and villages, and the mines which are beginning to be worked, and which admit of indefinite development, provision should undoubtedly be made for educating our own mechanical and civil engineers, and chief workers in mechanics and mines; but I here speak of the more elementary part of the work of practical education, which should be given in the ordinary Public Schools.

3. It must be admitted that though the general organization of our Public School System is much approved, and although the schools themselves have improved; yet that the knowledge acquired in them is very meagre—extending for practical purposes very little, and in many cases not at all, beyond what have been termed the three R's—Reading, 'Riting and 'Rithmetic, and that rather elementary. If the system of schools cannot be greatly improved, what is taught in the schools should be greatly advanced and extended, I entirely agree with the Hon. Mr. Carling, Commissioner of Agriculture, who, in a late able report, remarks :—

"Notwithstanding the great advancement we have made within a period comparatively short, I have a growing conviction that something more is required to give our education a more decidedly practical character, especially in reference to the agricultural and mechanical classes of the community, which comprise the great bulk of the population, and constitute the principal means of our wealth and prosperity. What now appears to be more specially needed in carrying forward this great work is, in addition to the ordinary instruction in Common Schools, the introduction of the elementary instruction in what may be termed the foundation principles of agricultural and mechanical science."

4. These views, to a limited extent, have been successfully acted upon in our Normal and Model Schools, but I propose to carry them into more certain and general operation, by the additional Lectureship in the Normal School, which has been established for the special purpose of preparing teachers to teach the subjects indicated in the Public and High Schools, and to make the teaching of them a part of the programme of instruction in our Public Schools. We have, already, in the Educational Museum the specimens of models necessary for a school of both the fine and some of the mechanical arts; and I trust there will soon be supplemented Schools of mechanical and civil engineering, if not of architecture, as also of manufactures and agriculture. But what I have said relates to the elementary education which may be imparted on these subjects in the Public and High Schools.

IV.—THE WAY IN WHICH THIS INSTRUCTION SHOULD BE GIVEN.

1. As to the only way in which instruction in these subjects should be given, we quote the following strikingly forcible language of Dr. Lyon Playfair on the subject. He says :—

"The pupil must be brought in face of the facts through experiment and demonstration. He should pull the plant to pieces, and see how it is constructed. He must vex the electric cylinder till it yields him its sparks. He must apply with his own hand the magnet to the needle. He must see water broken up into its constituent parts, and witness the violence with which its elements unite. Unless he is brought into actual contact with the facts, and taught to observe and bring them into relation with the science evolved from them, it were better that instruction in science should be left alone. For one of the first lessons he must learn from science is not to trust in authority, but to demand proof for each asseveration. All this is true education, for it draws out faculties of observation, connects observed facts with the conceptions deduced from them in the course of ages, gives discipline and courage to thought, and teaches a knowledge of scientific method which will serve a life time. Nor can such education be begun too early. The whole yearnings of a child are for the natural phenomena around, until they are smothered by the ignorance of the parent. He is a young Linnaeus roaming over the fields in search of flowers. He is a young conchologist or mineralogist gathering shells or pebbles on the sea shore. He is an ornithologist, and goes bird nesting; an ichthyologist, and catches fish. Glorious education in nature, all this, if the teacher knew how to direct and utilize it. The present system is truly ignoble, for it sends the working man into the world in gross ignorance of everything that he has to do in it. The utilitarian system is noble in so far as it treats him as an intelligent being who ought to understand the nature of his occupation, and the principles involved in it. If you bring up a ploughman in utter ignorance of everything relating to the food of plants, of every mechanical principle of farm implements, of the weather to which he is exposed, of the sun that shines upon him, and makes the plants to grow, of the rain which, while it drenches him, refreshes the crops around,

is that ignorance conducive to his functions as an intelligent being? All nations which have in recent years revised their educational systems, have provided a class of Secondary Schools for the industrial classes, especially devoted to teach them the principles of science and art relating to their industries. Holland compels every town of 10,000 inhabitants to erect such schools."

V.—NECESSITY FOR TEACHING PRACTICAL SCIENCE IN THE SCHOOLS—EXAMPLES.

1. What Dr. Lyon Playfair has remarked, in an opening address to the Educational Section of the Social Science Congress, held last year at Newcastle, in regard to English Elementary Schools and the teaching of practical science in them, applies largely to Canada.—

"The educational principle of Continental nations is to link on primary schools to secondary improvement schools. The links are always composed of higher subjects, the three R's being in all cases the basis of instruction; elementary science, and even some of its applications, is uniformly encouraged and generally enforced. But as we have no schools corresponding to the secondary improvement schools for the working classes, we suppose we can do without, used as links. No armour-plate of knowledge is given to our future artisan but a mere veneer of the three R's, so thin as to rub off completely in three or four years of the wear and tear of life. Under our present system of elementary teaching, no knowledge whatever bearing on the life-work of a people reaches them by our system of State Education. The air they breathe, the water they drink, the tools they use, the plants they grow, the mines they excavate, might all be made the subjects of surpassing interest and importance to them during their whole life; yet of these they learn not one fact. Yet we are surprised at the consequences of their ignorance. A thousand men perish yearly in our coal mines, but no school master tells the poor miner the nature of the explosive gas which scorches him, or of the after damp which chokes him. Boilers and steam-engines blow up so continually that a Committee of the House of Commons is now engaged in trying to diminish their alarming frequency, but the poor stokers who are scalded to death, or blown to pieces, were never instructed in the nature and properties of them. In Great Britain alone more than one hundred thousand people perish annually, and at least five times as many sicken grievously, out of pure ignorance of the laws of health, which are never taught them at school."

2. In regard to the study of Natural Science in the Schools, the Royal Commissioners appointed to enquire into systems of schools, say:—

"We think it established that the study of Natural Science develops better than any other studies the observing faculties, disciplines the intellect by teaching induction as well as deduction, supplies a useful balance to the studies of language and mathematics, and provides much instruction of great value for the occupations of after life."

VI.—THE STUDY OF NATURAL HISTORY IN THE SCHOOLS.

1. In further illustration of this subject, I beg to add a few words by Professor Agassiz, formerly a distinguished teacher in Switzerland, latterly a more distinguished professor in the United States. In an address at an educational meeting in Boston "on the desirability of introducing the study of natural history into our Schools, and of using that instruction as a means of developing the faculties of children and leading them to a knowledge of the Creator," Professor Agassiz observes:—

"I wish to awaken a conviction that the knowledge of nature in our day lies at the very foundation of the prosperity of States; that the study of the phenomena of nature is one of the most efficient means for the development of the human faculties, and that, on these grounds, it is highly important that this branch of education should be introduced into our Schools as soon as possible. To satisfy you how important the study of nature is to the community at large, I need only allude to the manner in which, in modern times, men have learned to control the forces of nature, and to work out the material which our earth produces. The importance of that knowledge is everywhere manifested to us. And I can refer to no better evidence to prove that there is hardly any other training better fitted to develop the highest faculties of man than by alluding to that venerable old man, Humboldt, who was the embodiment of the most extensive human knowledge in our day, who acquired that position, and became an object of reverence throughout the world, merely by his devotion to the study of nature. If it be true then, that a knowledge of nature is so important for the welfare of States and for the training of men to such high positions among their fellows, by the development of their best faculties, how desirable that such a study should form part of all education! And I trust that the time when it will be introduced into our Schools

will only be so far removed as is necessary for the preparation of teachers capable of imparting that instruction in the most elementary form. The only difficulty is to find teachers equal to the task, for, in my estimation, the elementary instruction is the most difficult. It is a mistaken view with many, that a teacher is always efficiently prepared to impart the first elementary instruction to those entrusted to his care. Nothing can be further from the truth; and I believe that in entrusting the education of the young to incompetent teachers, the opportunity is frequently lost of unfolding the highest capacities of the pupils, by not attending at once to their wants. I have been a teacher since I was fifteen years of age, and I am a teacher still, and I hope I shall be a teacher all my life. I do love to teach; and there is nothing so pleasant to me as to develop the faculties of my fellow beings who, in their early age, are entrusted to my care; and I am satisfied that there are branches of knowledge which are better taught without books than with them; and there are some cases so obvious, that I wonder why it is that teachers always resort to books when they would teach some new branch in their schools. When we would study natural history, instead of books let us take specimens—stones, minerals, crystals. When we would study plants, let us go to the plants themselves, and not to the books describing them. When we would study animals, let us observe animals."

2. Thomas Carlyle wrote,—"For many years it has been one of my constant regrets, that no schoolmaster of mine had a knowledge of natural history, so far, at least, as to have taught me the little winged and wingless neighbours that are continually meeting me with a salutation which I cannot answer, as things are; but there will come a day when, in all Scottish towns and villages, the schoolmasters will be strictly required to possess such capabilities."

VII.—THE VALUE OF DRAWING IN OUR SCHOOLS.

1.—So important and necessary was drawing (which is now prescribed in our Schools) felt to be, as a branch of learning, that in 1870, the Legislature of Massachusetts passed the following law on the subject:—

"The General Statutes are hereby amended so as to include Drawing among the branches of learning which are by said Section required to be taught in the Public Schools."

"Any City or Town may, and every City and Town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in Industrial or Mechanical Drawing, to persons over fifteen years of age, either in day or evening schools, under the direction of the School Committee."

2.—On this enactment, the Secretary of the Board of Massachusetts remarks:—

"This is one of the most important laws of the Session of 1870, and is destined, I doubt not, to produce lasting and beneficial results. It will not, therefore, be out of place, to give a brief account of the steps which led to its enactment. * * * *

"In response to a petition presented to the Legislature, in June, 1869, by several of the leading citizens of Boston, a Resolve was passed directing the Board of Education 'to consider the expediency of making provision by law for giving free instruction to men, women, and children in mechanical drawing, either in existing schools, or those to be established for that purpose, in all the towns in the Commonwealth having more than five thousand inhabitants, and report a definite plan therefor to the next general Court.'

"The Board cordially entered upon the task thus committed to them. * * * * The Petition and Resolve were referred to a Special Committee, with instructions to make such enquiries as they deemed advisable, and report their conclusions for the consideration of the whole Board. This resulted in the issuing of a circular, asking for the opinions of gentlemen connected with the various mechanical and manufacturing industries of the Commonwealth, of others familiar with the workings of our system of Public Instruction, and especially of gentlemen eminent for their skill and experience in this particular department of instruction."

"The communications received were presented to the Board, accompanied by a brief and able report. The report presented met with the unanimous approval of the Board, and it was voted to recommend to the Legislature the following action, to wit:

"That a law be passed requiring: 'First, that elementary and freehand drawing be taught in all the Public Schools of every grade in the Commonwealth; and, Second, that all Cities and Towns having more than ten thousand inhabitants be required to make provision for giving annually, free instruction in industrial or mechanical drawing to men, women, and children in such manner as the Board of Education shall prescribe.'

"The recommendations were favourably received by the Legislature, and embodied in the foregoing Act, and in an Order of the

House of Representatives to print in pamphlet form two thousand copies of such of the communications above named as the Board should designate.

"These are papers of rare value, treating of the subject of drawing in its relation to general education, to our various mechanical and manufacturing industries, to high culture in art, and indicating the most approved methods of teaching it, both in the Public Schools, and in special classes."

3. The English Commissioners in their report thus summarise the opinions of those gentlemen examined by them in regard to the subject of Drawing. They say:

"Mr. Stanton remarks that 'whether we regard it as a means of refinement, or as an education for the eye, teaching it to appreciate form, or as strengthening habits of accurate observation, or gain as of direct utility for many professions and trades, it is equally admirable.' Dr. Hodgson stated it as his opinion that 'drawing should be taught to every child as soon as he went to school, and added that it was already taught to all the boys (nearly 1,000) in the Liverpool Institute.' From Mr. Samuelson's letter to the Vice-President of the Committee of Council on Education, drawing appears to be always regarded as a most important subject of instruction in the technical schools on the continent; and the bearing of this on the excellence ascribed to the foreign artisans and superintendents of labour cannot be mistaken."

VIII.—PROVISION FOR TEACHING VOCAL MUSIC IN OUR SCHOOLS.

1. Vocal music being now required to be taught in our Schools, we insert the following striking illustration of its value and importance as a softening and humanizing influence as a subject of instruction, from the report of the Secretary of the Board of Education in Connecticut, for this year. It will be seen how successfully he combats the statement so often put forth that instruction in vocal music is of no practical use to large numbers of children, because of their inability to sing. He says:

"Music is taught in our best Schools and should be in all. In many instances it has taken its proper place as one of the regular studies. It is the testimony of multitudes of Teachers, that music helps instead of hindering progress in other studies. It stimulates the mental faculties and exhilarates and recreates pupils, when weary with study. Some branches are pursued largely for the mental discipline which they impart. No study that can be taken up so early, is a better discipline in rapid observation and thinking; none so early and easily develops the essential power of mental concentration. In singing by note, a child must fix his thoughts and think quickly and accurately. The habit of fixing the attention thus early formed, will aid in all other studies. There is abundant testimony that Scholars progress more rapidly in the common branches, where singing is taught. Vocal music aids in graceful reading, by promoting better articulation, improving the voice and correcting hard and unpleasant tones. The influence in cultivating the sensibilities, improving the taste and developing the better feelings of our nature, amply compensate for the time required for this study. Its efficacy in School Government, making work a play, giving a systematic recreation—enjoyed the more because always in concert, and with the sympathy and stimulus of companionship—is admitted by the most successful Teachers. Trouble in the school-room often comes from that restlessness, which proper intervals of singing would best relieve. Singing is a healthful, physical exercise. In primary schools, gymnastic exercises often accompany the singing. When children are trained to erectness of posture, and to the right use of the vocal organs, speaking, reading and singing are most invigorating exercises; expanding the chest, promoting deep breathing, quickening the circulation, and arousing both the physical and mental energies. Diseases of the respiratory organs, are the great scourge of this climate, and occasion more than one-fifth of our mortality. It is said that in New England and New York, more than forty thousand die annually of diseases of the throat and lungs. The remarkable exemption of the German people, alike in Germany and America, from pulmonary disease, is attributed, by eminent medical authority, largely to the universal habit of singing, in which they are trained from their earliest years, both at home and at school. Thus their lungs are expanded and invigorated. The broad chest is a national characteristic. There is a common but erroneous impression that only a favoured few can learn music. How is it then that every child in Germany is taught singing as regularly as reading? But facts may be found nearer home. In late examinations of all the schools in New Haven, 'only two hundred and forty-eight children out of over six thousand were found unable to sing the scale, and one hundred and forty of these belonged to the primary grades; that is, out of this multitude, only one hundred and eight above the primary grades could not sing. Superintendent Parish, says: 'A systematic course of training the voices of the little ones in the primary rooms, has been com-

menced. Thus far the experiment has been a complete success. Children from five to eight years of age, readily sing the scale, singly and in concert, and read from the blackboard, notes on the staff by numerals and syllables with as little hesitation as they call the letters and words of their reading lesson.' In the Hancock School of Boston, of about one thousand girls, less than a dozen were unfitted from all causes for attaining to a fair degree of success in singing. General Eaton, the National Commissioner of Education, and Governor English, when visiting the schools in New Haven, expressed their surprise and gratification at hearing children in the primary schools, sing at sight exercises marked on the blackboard by the Teacher. 'The exercises are placed on the blackboard in the presence of the scholars, and they are required to sing them once through without the aid of Teacher or instrument, and are marked accordingly.'"

IX.—FACILITIES FOR GIVING A PRACTICAL COMMERCIAL EDUCATION IN THE SCHOOLS.

One of the felt wants in our system of Public and High Schools, has been facilities for giving boys instruction in matters relating to Commercial and business transactions. That want has been supplied; and both in the High and Public School Law provision has been made for giving pupils instruction in subjects relating to Commercial education. For years this subject has received attention in the Model School of Ontario, and boys have been thoroughly prepared in book-keeping and other kindred branches, so as to fit them at once for practical work in the counting house and other departments of mercantile life. The result has been, that boys trained there, have been much sought after by merchants and others. In the schools generally, beyond a little theoretical book-keeping no special attention has been hitherto paid to commercial subjects; but in the new programme of study prescribed for the Schools, pupils are required:

"1. To be practically acquainted with Compound and Conjoined Proportion, and with Commercial Arithmetic, including Practice, Percentage, Insurance, Commission, Brokerage, Purchase and Sale of Stock, Custom House Business, Assessment of Taxes and Interest.

"2. To know the definition of the various account books used. To understand the relation between Dr. and Cr., and the difference between Single and Double Entry.

"3. To know how to make original entries in the books used for this purpose, such as Invoice Book, Sales Book, Cash Book and Day Book.

"4. To be able to journalize any ordinary transaction, and to be familiar with the nature of the various accounts in the Ledger, and with the mode of conducting and closing them.

"5. To be familiar with the forms of ordinary Commercial paper, such as Promissory Notes, Drafts, Receipts for the payment of money, &c.

"6. In the English Course for the High Schools, pupils are required to be acquainted with Commercial forms and usages, and with practical Telegraphy."

BARRIE NEW PUBLIC SCHOOL.

An interesting event took place in Barrie on the 1st May, on the laying of the corner-stone of the new Public School in that town. By invitation of the Town Board of Trustees, conveyed by Wm. Boys, Esq., the Chairman, the Rev. Dr. Ryerson, performed the ceremony. The *Barrie Examiner* says:—The first ceremony was the presentation of the members of the Board of Public School Trustees to the Chief Superintendent of Education by the Chairman, as well as of the Architect, S. Bird, Esq., and the Contractor, Mr. George Ball. The Chairman then handed to Dr. Ryerson the glass bottle to be placed in the cavity made for it—in the under stone. This bottle contained specimens of all Canadian coins since the time of Confederation—one copy of each of the Barrie newspapers, and a copy of the *Daily Globe*, *Leader* and *Mail*. With these was enclosed the document.

The bottle was then placed by Dr. Ryerson in its proper receptacle. The Treasurer, Mr. Henry Bird, came forward and presented a silver trowel, with the following inscription:—

Presented to
REVEREND EGERTON RYERSON, D.D.,
Chief Superintendent Education, Ontario,

On the occasion of his laying THE CORNER-STONE of the
BARRIE PUBLIC SCHOOL, May 1st, A. D., 1872.

Mr. Bird, the Architect, presented the mortar, when the Rev. Dr. Ryerson proceeded to lay the stone in the name of the Father, the Son, and Holy Ghost. As soon as the stone was laid, the Rev. Mr. Morgan, Rector of Barrie, invoked the Divine blessing, in a special prayer, upon the undertaking, acknowledging that unless

God blessed the wall vain were the efforts of those who built it. At the close of the prayer, as the inclemency of the weather still continued, the Chairman adjourned the meeting to the Town Hall.

After music from the band, Wm. Boys, Esq., Chairman, then delivered the following address, which we make no apology for publishing in full, as it contains matter of the greatest interest to all citizens of our town:—Dr. Ryerson, Ladies and Gentlemen,—I must ask your indulgence while I briefly refer to matters suggested by the occasion which brings us together to-day. We are told that individuals should, at particular periods of their lives, take account of their religious and worldly progress, and govern themselves in the future according to the results, and I hold that this course, which is thought proper for individuals, is proper also for public bodies. Men who are placed in public positions fail, in my opinion, to perform their public duty, if they do not, at appropriate periods, review the history of the past, and study how to avoid errors or drawbacks to progress, in the future. I feel that one of those periods has now arrived in the history of Barrie, and as one holding a public trust, I propose reviewing that portion of the history of Barrie which seems appropriate to this occasion. Twenty years ago there was no Public or Common School, not, however, without school accommodation, as we were then included in what was known as School Section No. 1 of the adjoining Township of Vespra. We had no building specially set apart as a school-house, but a rented room then sufficed to carry on the daily teaching embraced within the section. As part of a township school section we had but three trustees, and as they were our first trustees, I shall take the liberty of naming them—they were Mr. John Laird, Mr. Andrew Graham, and Mr. David Morrow—all of whom I am happy to say still survive, and bear testimony to their unabated interest in educational matters by their presence here to-day. Twenty years ago one teacher took charge of all our scholars—both male and female—and if there is any doubt as to his labour having been great, there can be none as to his salary having been small, for he subsisted on a sum of £60 per annum. Shortly after the time I refer to, Barrie was cast loose from the Township of Vespra, and in January, 1854, became possessed of a school of its own, and built a school-house of frame 24 x 36, just about large enough to fill up one room in the building we are now erecting. This building, after being enlarged and removed from its original site, still exists near by. It was, no doubt, at the time it was built amply large, yet I find from the record of the school that such was the growth of the town by September, 1854, non-residents were refused admittance to the Barrie School on the ground of its over-crowded state, the average attendance of males being 70—the females were then taught in another building by a female teacher. This state of things continued for nearly a year, when a separate school was established for Barrie, which brought some relief to the over-crowded building. But it was evident that more school accommodation would have to be supplied, and I see by the minute book of the school, that a new school-house was talked of so far back as January 1855. The new school-house, however, never came, and in 1857, the financial crisis which swept over Canada, and left such a depressing shadow behind it for so many years, put a stop to any large outlay that could be avoided. Debentures were then unsaleable, and public bodies were unable to obtain money except on ruinous terms. The difficulty at last was settled by an enlargement of the old building, which then assumed the appearance which it now presents. With the enlarged school-house, supplemented by some rented rooms, the schools of Barrie have ever since continued to the present time. I have struggled—and others have struggled—for the past ten years to increase the school accommodation, but the matter was put off so long that no ordinary expenditure of money would suffice, and it took time to convince our people of the imperative necessity there was for a large outlay in providing a new school-house. But the ratepayers became convinced at last, and gave their hearty approval to an expenditure which will enable us during the next year to erect a school building suitable to the place, and one worthy of the trouble you, sir, have taken to be present at its official commencement. During the time I refer to, a Grammar School building of brick was erected and enlarged, and a Separate School building put up. But the history of the past must disclose to us something more than an earnest desire for educational facilities if we want to be satisfied that we are doing our duty. The state of our religious progress, and our commercial and manufacturing progress, must also be commendable, before we can certainly say we are satisfied with the past, and have cause for hopeful anticipations for the future. Education alone is no doubt a good thing, but without religion and commerce go hand in hand with it, teaching us our moral duty, and placing within our reach the necessities of life, and the objects of honest ambition, there is danger of education being turned to the production of clever rogues, seizing their means of subsistence with unlawful hand, made all the more cunning by education, rather than turning their abilities to

account in the lawful pursuits of honest industry. After referring to the local history of the town, in regard to churches, manufactories, and general progress, he continued:—I think, therefore, the people of Barrie need not shrink from a review of the past, nor feel any anxiety for the future. If they will firmly resolve that religious, educational and commercial progress shall go hand in hand hereafter as in the past, there will be nothing to fear. If the educational accommodation of the town has fallen a little behind in the race of progress, I trust it will soon make up the lost ground, for to-day, with your kind assistance, we have inaugurated a system of Public School accommodation which, with our school known as the Barrie School, Separate and High Schools, will ultimately provide for the educational wants of the neighbourhood. I use the expression "inaugurated a system," because I hope and trust that our efforts in this direction will not be slackened on the completion of this building. The limits of Barrie extends to a distance of over two miles to the east, and a mile and a half to the south and west, and you may well understand that little children living at the outskirts of the town, even after this large school-house is built, will still be practically without school accommodation. I therefore look upon this building as merely one of a series of Public Schools which must ere long be built within our borders. And the task I have set myself to perform before I will willingly resign my present trust, is to see built a large central school and two infant schools at either end of Barrie. When I see that task accomplished I shall be willing to yield my position in connection with the Public Schools of this place into newer, abler, and perhaps younger hands. The feeling I entertain with regard to this matter I think is shared in by all my co-trustees, and while we believe this building will be worthy of the honour you have done us in coming here to-day, we also believe at some future day, we shall have a system of Public School accommodation worthy of the life-long and successful efforts you have made to give to Ontario an almost perfect system of education. It is seldom that public men are asked to assist in building a monument to themselves, but I have asked you to do so on this occasion, for I look upon buildings of this nature as memorials of your well directed public work during the last thirty years, and when you have gone to your long home, and the envy—aye—and the malice of your enemies are forgotten, your name associated with the noble work you have accomplished, will be handed down from generation to generation, and each school section throughout the country will contain a monument to your memory, as enduring as the foundations of this continent.

REV. DR. RYERSON.—I am glad to have the opportunity of meeting so large an assembly as this here, upon such an important occasion. The natural situation of your town is most admirable, but it is to your own energy and enterprise that you have made it what it is, the first town in Simcoe. I am glad to see that the energy which you have displayed in business matters have been carried into school matters. The building of such a school, of which we have this day laid the foundation stone, is an epoch in your educational history. But think not the money spent upon the erection of schools results only in the increase of intelligence among you, though this is most important, it is also a good investment in a business point of view as well. Wherever schools and churches are built, there property has been always found to increase in value. People in our country like to live near churches and schools, and by affording greater facilities for secular education as well as religious education, you are discharging the debt due from the risen generation to the rising generation. Children are not like chickens. Chickens and most of the young of the lower creation, can almost immediately pick for themselves, and hold their own in this great struggling world. But children have to be taught—have to learn every thing. These young people, whose glad faces I am happy to see, in a few years will be fathers and mothers—will be your magistrates, your councillors, your members of parliament. In view of this, how important becomes the subject of education. Learning as far as possible should be made a pleasure. But what child breathing the close atmosphere of an insufficient school room, sometimes uncomfortable from being too near the stove, at another perishing with cold from being too near the window—learning under such circumstances can never be a pleasure, but becomes in the pupil's mind associated with pain, and consequently shirked and neglected. A good and commodious school-house, like the one you are erecting now, will cure this, and you may look forward with confidence to a more rapid advance in your children's progress. The benefit of the Public School System, with all its defects, has at last been recognized. Every municipality throughout the country, be it ever so small, rejoices in the advantages it has conferred, and, looking upon this, I feel that I have not been forgotten—that my efforts have been appreciated. The advantages we possess in this respect over earlier nations can hardly be overrated. Our free institutions are administered by our intelligent and educated people, who are indepen-

dent in character and jealous of their rights. No government is more independent than our own. No word of authority even from our Queen, much as we love her, can affect us here. Think you that the free education distributed throughout our land has had nothing to do with this? I am proud to say that books under the School System can be obtained lower than the cost price in any other country. In the superiority of teachers, in the numbers of school-going children, and in funds, we are greatly in advance of what we were some years ago. All we have to do is to be faithful in this great work, and when we have done our part and are gone, our memories will not be forgotten, we will live in the hearts of those who come after us. After complimenting the excellent singing of the children, the Rev. gentleman read some stanzas breathing of the patriotism which everywhere animates the hearts of Canadians, and took his seat amid much applause.

The band again favoured the meeting, followed by the children in "a hymn for the occasion."

ROBT. SIMPSON, Esq.—As Mayor of the corporation and an old resident of the Town of Barrie, I have always taken a deep interest in the prosperity of the place. I have not, it is true, made education my care, as circumstances and my own learning have been more towards matters of a municipal nature. Yet I have observed with pleasure the great progress which education has made amongst us, and look forward with the rest of my fellow-citizens to further advances still. I cannot allow this opportunity to pass without stating that the prosperous state of our school affairs, both in the Public School and in the Grammar School, has been owing in a very great measure to the energy and warm interest taken in them by the chairman, Mr. Wm. Boys. I can scarcely trust the accuracy of my memory when I look back to the past from the present prosperity of Barrie. Its rapid increase in trade, manufacture and wealth has been very great, and I trust and hope there is a brighter future still in store for us.

REV. DEAN O'CONNOR said:—The occasion which brought them together was one in which all who took an interest in education should rejoice and take part. The subject of education is of the most vital importance, since few questions affect so directly the welfare and interests of the people, more especially in this country, where the well-being and permanence of our institutions depend so much on the proper training of youth. Though we are not yet ranked as a distinct nation, however we enjoy a freedom that is even greater than some countries that are styled kingdoms or republics. If we wish to preserve that privilege which we possess, of making our own laws and shaping the destiny of this country, we must see to the youth of the country and have them properly educated, so that they may, in their own times, fitly occupy the positions they will be required to fill. So important is the proper training of youth that we may say with Washington, it is the "pillar of society," since it and it alone forms a nation, maintains its splendour, and prevents decay. Any country that pays particular attention to its educational institutions may be regarded as on the high-road to prosperity and enlightenment. But intellectual culture alone is not sufficient to perpetuate the civilization of a nation. The moral as well as the mental faculties require cultivation, in order to have the education of the human mind complete. It is not one portion of man, but the whole—the physical, the intellectual and moral being, that must be cultivated. Neglect any one part of man's nature, and you at once disturb the equilibrium of the whole and produce disorder: educate the intellectual at the expense of the moral and religious feelings, and you but fearfully increase a man's powers to effect evil. "Talent if divorced from rectitude," says Channing, "will prove more of a demon than a god." The human mind must consequently be thoroughly educated, if you wish to have good citizens and practical Christians. To obtain this complete moral training, the religious element should be the parent stem of all education. This is the reason why the Church to which I belong has always regarded moral training superior to intellectual culture, and on that account, insists on providing the youth of her fold with separate schools wherever practicable, that they may receive in them that religious training which she deems so requisite. Thanks to the liberality of the Government of this country, our separate schools are not only permitted, but are also supported by the funds of the Government. All should unite in endeavouring to provide means for giving the youth of every denomination a thorough and practical education that will fit them for the proper discharge of the duties they will afterwards be called upon to fulfil both as citizens and Christians. As we all know, youth is called the seed time of life, and experience as well as reason proves that the same law holds good in mental as well as in material husbandry: "what you sow ye shall reap." Consequently the proper time to inculcate these salutary principles of morality is in youth, when the mind is simple and docile, and the heart may be easily cast into any mould. The first impressions are the last forgotten. Every friend

of education should encourage whatever tends to elevate the human mind, and thus promote the welfare of the country. The people of Barrie especially should feel proud that they are erecting a building that will be an ornament to the town as well as a seat of learning for the youth of the place.—(Cheers.)

THE REV. W. McKEE, B.A., Inspector of Public Schools, South Simcoe.—I assure you it gives me much pleasure to be present on this occasion, and to witness the proceedings of this afternoon, and more especially to have seen the first stone of the new Public School-house in this town laid to-day, under so favourable auspices, by the eminent father himself of the excellent Common School System of this Province—a system which, in the opinion of the best judges, is not surpassed, at least as regards its machinery and its essential and most important features, by any other country either in the old world or the new. It is a system which, as some of the previous speakers have eloquently observed, stands as a monument of the labours of its illustrious founder—a monument more lasting than brass, and which shall endure when marble shall have crumbled to atoms.—(Applause.) I am happy to learn, by what has fallen from the Mayor and some other speakers, that the ability and services of our worthy chairman are so highly appreciated by his fellow-members of the Board of Public School Trustees. I can assure you that in the Board of County Examiners they are equally valued; and, I am glad to have this opportunity of stating publicly before the Warden and other members of the County Council, what I have more than once mentioned to the Rev. Dean O'Connor and others, namely, that such is the great capacity for business possessed by Mr. Boys, and so essentially necessary is his experience and service found to be in conducting the proceedings of the Board, that I do not know how we could possibly get on without him; and I am persuaded the other members will unite with me in testifying that as our Secretary he is emphatically the right man in the right place.—(Applause.) And now I must congratulate the Public School Trustees and the good people of Barrie on the enterprise of which we have seen the commencement to-day; and I would venture to express the hope that when this new school-house is successfully finished and completely furnished and equipped, it will be an honour to the Board of Trustees and to the people of this place, and will form a model of what a Public School-house should be, in such a rising and prosperous town as this. I have long entertained the conviction that the men who, in a new country like this, plant or spread schools, and thus become instrumental in causing the advantages and blessings of education to be conveyed to every township, to every school section, to every family and to every child and youth in the land, are the real patriots of their country—are the benefactors of their kindred and race. They are doers in a work the benefits and good effects of which shall follow them—the happy and gratifying fruits of which shall be reaped and enjoyed not by themselves directly, but by their families and children, and their children's children after them. These are the men whom coming generations will rise up and call blessed. It is the men of this stamp who make any country great and free and prosperous and happy. They are the real source of progress and of Christian civilization in any country.—(Great applause.) And I would say to the Board of Public School Trustees, and to the people of Barrie, that in erecting a good school-house here, you may be doing a thing the beneficial influence of which may extend farther than you first designed or contemplated. I am stating a well-known fact when I say that many of the leading and influential men belonging to the different townships in the county are frequent visitors in your town—it being the seat of law courts, and the place where the County Council hold their regular meetings—and if these visitors see in your town a first-rate school-house, thoroughly furnished and equipped in every respect, the reflex influence must be salutary and beneficial, and, imitating your example, they will naturally be led to seek the establishment of good or superior school-houses in their respective localities. And I can testify that there is great need of something being done for the purpose of securing the erection of a better class of school-houses in most parts of the county. Having some months ago completed my first tour as Public School Inspector, I am in a position to state that many of the school-houses throughout South Simcoe are of a very inferior description—being rude log buildings, old and dilapidated, with seats and desks of a corresponding character, often situated on the edge of the road, and without wells, offices, playgrounds or fencing of any kind. I may mention, also, that in several essential particulars, most of the frame school-houses which have replaced the primitive log structures, are not at all what they should be, nor what you would naturally be led to expect, from the great wealth and agricultural prosperity of the larger portion of the Riding; so that it is quite certain and plain the requirements of the New School Law have not come into force at all too soon, so far as the interests and advancement of education in this part of Ontario are concerned. Indeed truth obliges me to state that in the

Riding which forms my field of labour,—and I believe the remark will hold true with still greater force in regard to North Simcoe—the school-houses which are sufficiently large, well ventilated, fully furnished, and provided with an adequate supply of requisites are very few—perhaps less than half-a-dozen all told. It is true, however, that since the New School Law and Regulations came into operation there are indications of a change for the better in regard to the matters to which I have alluded. I could mention not less than twelve or fourteen school sections in which steps have already been, or are being taken for the erection of new school-houses which are designed to replace the old buildings, and which, in regard to adequate school accommodation, are also intended to meet the requirements of the New School Law, and to be in every way suitable for school purposes. And it is to be distinctly noticed that in all the cases to which I have referred, the initiative has been taken by the people or the trustees themselves; and I, for my part, feel that I cannot but regard this as a very significant fact—a very hopeful and encouraging symptom. I look upon it as an omen for good, and as an important and gratifying evidence of the favourable and successful working of the New School Law and Regulations. For being intimately acquainted with the southern part of the county for the last fifteen years, I have no hesitation in maintaining that the effects spoken of, or the action taken by school trustees or the people, can be fairly traced to no other cause than to the working and influence of the New School Law and Regulations. I can testify that latterly—I mean particularly since the passing of the New School Act—I have marked among the people of these townships a deepening sense of the importance of a sound education, and likewise an increasing desire to encourage and promote it. I have noticed, also, I think, both among trustees and parents, a growing conviction that not only the efficiency of the teacher, but, also the discipline and spirit of a school, the progress of children in their studies, their proper training, and their successful education, are far more intimately connected than it was one time imagined, with the style and character of the school-room in which the work of instruction is carried on, and with the kind of school accommodations provided for and enjoyed by pupils. If things continue to progress as they have done since the New School Law was placed upon the Statute-Book, I feel persuaded that in less than four years, few, if any, of the old log school-houses will be left standing in this county; but, on the contrary, that they will all be replaced by buildings of a very different stamp, and much better adapted for the health and comfort, as well as for the educational requirements of school children. And all this I trust to see accomplished without a great deal of pressure or stimulus having to be used by the Inspector, and most certainly without anything like a harsh, dictatorial interference on my part.—In a very few cases only—(I would fain hope there may be none)—do I expect that it will be necessary for me to do more than tell the trustees what the law is; and what are the duties which it requires them to discharge; and to remind them of the great importance as regards the educational interests and the advancement of the young of having good school-houses; and of providing adequate school accommodation for all the children of school age within the section.—(Cheers.)

REV. DR. RYERSON.—I wish to say that I have impartially watched over the advancement of the Separate Schools, as well as of the others. I look upon it that education, without a recognition of the great principles of the Bible, would be a disaster. Whilst looking fully after the interests of the Public Schools generally, it was his end and aim that all sects, all religious bodies should have free and unimpeded opportunities for educational progress, and he believed that the Rev. gentleman who had just sat down would fully bear him out in his assertion that Roman Catholic separate Schools had received to the full as much care and attention as any others in the Province.—(Loud cheers.)

W. D. ABDAGH, Esq., M. P.—The many olive branches I see around me, which are far too numerous to count, make me feel that I shall soon pass for an old man in the town of my adoption. Old age is not without its ambition, and as time rolls on I may hope to achieve the position of that wisest of men, "The oldest inhabitant." The numbers of these young people show that we have increased in material wealth, and with wealth comes the desire to do our duty towards them, to educate and fit them for the responsibilities of matured life. Dr. Ryerson has, in the Public School System, raised a monument to himself more durable than one carved in brass. If Heaven should spare me, I hope yet to live to see the rising school-house supplemented. Schools give protection to life and property. For many years past it has been a pleasure to me to be able to place my grounds at the services of those who annually get up the usual festivities for the school children. I regret that this year I cannot be personally present, as I leave for the old country next week, and shall be away most of the summer months. Nevertheless, the grounds will be open as usual, and it will add a zest to the pleasure

of my trip to know that young, happy faces are romping and swinging in their usual place of meeting. I am here charged with an apology from Judge Gowan for his unavoidable absence. The arrangements of his Courts, which require his presence in another part of the County to-day, has prevented his attendance. I am commissioned to express his great regret at not being here on this occasion, and especially in not being able to meet the Chief Superintendent, to whom he has been indebted for many courtesies in the past, and much information.

REV. MR. WILLOUGHBY, M. A.—My friends, for I suppose I can hardly call these little boys and girls, ladies and gentlemen as yet, I am glad to say that I am a native of this country. In my young days this country did not afford sufficient facilities for education, and I had to seek what I wanted elsewhere.—There were no \$8,000 school-houses in those days.—Had I stayed in Simcoe many business opportunities were open to me, but my mind was set on other things, and I went away. I was highly pleased with the Chairman's speech, and especially with the religious and moral tone which pervaded it. I did not think a lawyer could speak so.—(Laughter.) I feel that he is the right man in the right place, and a gentleman in whom the lovers of education should have full confidence. I am delighted to meet here the Chief Superintendent. He says he is growing old. But Dr. Ryerson will never grow old.—(Laughter.)

GEORGE DAVIS, Esq., Warden.—I am happy to see that the School System is gradually but surely improving. Dr. Ryerson, in his scheme of public education, has shown himself no partizan, but has chosen whatever was good from all systems and from all countries.

JAMES MORGAN, Esq., M. A.—I have three reasons for not making you a speech. First, because brevity is the soul of wit; that I am not accustomed to public speaking; and that there are a great many little feet very weary of standing so long and I beg leave to allow the children to speak for me.

The children sang "God bless the Prince of Wales," and the Band followed.

REV. MR. FRASER.—There is no country where education is so important as it is in Canada. According to our free institutions, all power is placed in the hands of the people, and if they be not educated so as to understand how to use this power properly, the result, as we see it in other countries, would be most disastrous. Look at France. Look at Spain. Look at Italy! And look at our own world too. Witness New York, for example. And what is the import of these "Trades' Unions" and "Strikes" of which we hear? Clearly the power is in the hands of the people; or, as the Romans were wont to say, "*Vox populi, vox Dei*," the voice of the people is the voice of God. The next point which I bring before you is, the necessity of having the people qualified to exercise their power judiciously, that is, in other words, the necessity of having the people educated.

"Were I to reach from pole to pole,
Or grasp Creation in my span;
I'd still be measured by my soul,
The mind's the standard of the man."

Sir Wm. Hamilton had written on the wall of his study, "There's nothing great on earth but man, there's nothing great in man but mind." Newton realized the value of knowledge; he saw the necessity of having the people educated, and as a consequence laboured for this end. "I know not what I appear unto others," he said, "but to myself I seem only like a boy playing on the sea-shore, finding sometimes a brighter pebble or a smoother shell than ordinary, while the great ocean of truth lies all undiscovered before me." Now this house, of which the corner-stone has this day been laid, is for the educating of the people, for the enlightenment of the masses. I rejoice to see such a building in course of erection in Barrie; long has it been needed, and long has it been talked about; now it is in progress, may it succeed! The man who conceived the idea of building this school-house deserves credit, and the name of Dr. Ryerson, the Chief Superintendent of Education, the layer of the corner-stone, shall long be remembered in connection with this structure; and longer far in connection with the planning, the laying down and building up of our present admirable Canadian School System. And while the mind is educated, the intellect developed, the moral nature must not be overlooked. Religion must be attended to. It has been said that,

"While stands the Colosseum, Rome shall stand,
And when falls the Colosseum, Rome shall fall,
And when Rome shall fall—the world?"

I would rather render it thus:—While stands a people's true enlightenment, religion shall stand; and when fails a people's true enlightenment, religion shall fail; and when religion shall fail, or fall, if you will,—the world. I am proud to say that I was once a Normal School boy. Having this day, then, so auspiciously laid the corner-stone of your Public School-house, let us go on; let our motto be "*Excelsior*." Like the young man who pierced his way

to the frozen heights of the Alps, and firmly held in his hand of ice the banner, with the strange device, *Excelsior!*

His Honor Judge Gowan, one of the most valued friends and promoters of education in the County of Simcoe (the oldest member of the Educational Board in that county), being absent on his judicial duties, sent the following letter to Mr. Boys, explaining his absence:—

ARDBAVEN, BARRIE, 24th April, 1872.

DEAR SIR,—I have to acknowledge the receipt of your letter of the 14th inst., informing me that the Board of Public School Trustees of Barrie have invited the Rev. Dr. Ryerson to lay the corner-stone of the new school house, on the 1st May next, and that you have been directed to invite me to be present on the occasion.

In reply, I beg to say that I deeply regret that the day named is the day appointed for one of my Courts forty miles from Barrie, and that, consequently, it will not be in my power to be present. Ever since I came to this country, nearly thirty years ago, I have been connected with the school system, having held the office of Trustee of the Grammar School, and the position of Chairman of the Board of Public Instruction from its first institution till superseded by recent enactment, and, with the exception of my friend, Mr. Dallas, I am the only member of the original Board now living.

I have seen the gradual improvement in the school system, and the improvement in the schools in this country from very small beginnings to the present advanced and most prosperous condition, so you will understand my disappointment in not being able to be present on the interesting occasion of laying the corner-stone of the Public School House of Barrie, by the Chief Superintendent of Education.

My position as Secretary and Treasurer of the Grammar School, and Chairman of the Board of Public Instruction, in this the largest county in Ontario, brought me in constant communication with the Education Office in Toronto; and I can say that the able, zealous, and wise administration of the school law by Dr. Ryerson and his assistant, Dr. Hodgins, has, here at least, had a happy effect,—fostering the increase of schools,—securing their better management,—giving them efficient teachers, and providing the means, within easy access to all, of securing a good common education to the youth of this country, and a very superior education in the Grammar Schools.

It would have afforded me much pleasure had I been able to say as much to Dr. Ryerson, when he comes amongst us on the 1st of May; and, although I have not always agreed with the Chief Superintendent in some matters of detail, I feel that the country is very largely indebted to him for earnest, persevering, and well-directed efforts in the cause of education.

May I ask you to lay this letter before the Trustees, and to offer them my congratulations upon the prospect of having at an early day one of the best and most commodious school-houses in the Province.

I am, dear Sir,

Very truly yours,

JAS. R. GOWAN,

Chairman, High School Board
Trustees, Barrie.

Wm. Boys, Esq.,
Chairman of Board of
Public School Trustees, Barrie.

REV. MR. MILNER and REV. MR. MORGAN spoke a few words, after which MR. BOYS said, I would now thank you for your presence, and beg you to join in singing the national anthem—"God save the Queen."

This was done with hearty good will, and the meeting quietly dispersed, well pleased with the ceremonies they had witnessed. Three cheers were given for the Queen, three cheers for Dr. Ryerson, and three cheers for the Chairman. Before closing we cannot help mentioning the admirable manner in which the children sang. For such little ones, the time kept was excellent, and Mr. James Morgan deserves the highest praise for the exertions he made in teaching them the pretty pieces selected.

PROF. GOLDWIN SMITH ON EDUCATIONAL TOPICS.

At the recent convocation of McGill College, Montreal, Mr. Smith addressed the assembly in the following forcible language:—He said that he had once before the honour of being present at the convocation of that University: he was then entirely a stranger, but he was not so now, for the Corporation had been kind enough to invite him to give a course of history lectures in the autumn, an invitation that he had gladly accepted. So that he trusted in a short time to be connected with the staff of the University (applause).—A special interest attached to the operations of that University from its connection with the great and wealthy city of Montreal, which though it could not be said of her as it was of Venice, "that

she held the gorgeous East in fee," yet had a commerce which rivalled the Venetian. From the report that had been placed in his hand he regretted to see that the liberality of the city hardly kept pace with the usefulness of that institution; the subscriptions for the general endowment had not advanced beyond the point indicated in last year's report. That might possibly make that University envy the position of others which were connected with the State, and which received large annual allowances, but he believed that on the whole the position of that University was better than that of the others. In course of time private munificence would be awakened, and it must be recollected that private munificence could hardly find a place in institutions supported by the State, because in that case it did no more, in fact, than displace a certain amount of State appropriations.

The great colleges of the old country, to which they looked back with something of envy as well as love, had grown up by private beneficence. His own college was University College. He was afraid that their connection with King Alfred was legendary, but they might reckon certainly as their founder an ecclesiastic of the thirteenth century, who, connecting his name with an undying corporation, had shared its immortality, and whose name would, in all probability, be gratefully remembered to the end of time.—(Applause.) To his first foundation numerous other benefactors had made additions, and that college had grown up to its present wealth and honour. There could be no reason for despairing of a similar course of things in Montreal. Here was wealth, which in a new country and in early times was perhaps not often dedicated in any large measure to intellectual objects, but which, in course of time, would be. He did not think, therefore, that there was any reason to talk with despondency of the future of that University, for already a great many benefactions had been made. He had seen a contribution of a very valuable addition to the library, made by Mr. Peter Redpath, of works of history of a very valuable kind. (Applause.)

Professor Johnson had adverted to the fact that the subjects of a liberal education were still in a course of transition: the faculty of arts, the faculty of a liberal education, was still agitated by some doubts and perplexities relative to the value of the subjects of instruction; physical science had only lately claimed its share in education, and it had already had its claim adjusted in connection with the old university subjects. No one, he thought, would doubt that the system adopted by the corporation of that University was sufficiently liberal and comprehensive, and that all valuable subjects of instruction were really recognized. There was one gentleman that day had received prizes, and had studied a circle of subjects, almost commensurate with the circle of human knowledge.—(Applause.) That reminded him of the Spanish hidalgo who arrived alone at an inn and asked for a bed, giving such a bead roll of titles, that he was told there was not room for half so many people in the inn. (Laughter.) It seemed to him also that there was sufficient liberality of choice of subjects given to the students, but it was possible to have too much liberality of choice, and the student might be perplexed and his time wasted if the University afforded him no guidance in the earlier period of his career. They had, practically, adopted the same course which had been adopted by the Universities of Oxford and Cambridge, that of guiding the student at the earlier period of his course, and leaving him to take his choice during the later period.

He rejoiced to see amongst the subjects mentioned in the report, as being in a hopeful condition, that of the higher education of women. It was to take part in that movement, for which he felt the most hearty sympathy, that he came this time to Montreal. Perhaps he was rather disposed to take a timid view of the general question which was so widely agitated at present; but he believed that woman was not "undeveloped man," but diverse, and if she were converted into undeveloped man, or even into developed man, "female man," as one of the apostles of the movement had said, it would be a great loss instead of a great gain to society. (Applause.) Nor had he any great faith in any sudden instantaneous change in human nature, either male or female. One great ground of complaint by some was that women were so frivolous as to adorn their persons. Now looking over the evidence of history, monumental and documental, from the time of the early Egyptians to our own, they had proof that for at least 5000 years woman had gone on adorning her person, and he was afraid she would not be cured in a day. (Applause.) But all sensible people were agreed that some improvements were now required in the education of women, and that all studies which could elevate them should be free and open to them, and he was very glad that the Montreal University was taking an active part in that work.

There was one point that he confessed he was glad to see that the authorities of the University were conservative in, and that was that they pronounced Latin and Greek in the old way. Now

some universities had with a great flourish, notably that of Harvard, adopted what they called the real Latin and Greek pronunciation. If they got the real pronunciation no doubt it would be a good thing, but what chance was there of their doing so? No doubt they could make certain discoveries as to the pronunciation of certain letters—such discoveries had been made, but let them consider this fact, from the time of Chaucer up to the present time in England there had been no great addition to the population from external sources, during the whole time there had been an unbroken current of literature, but he should like to know who would now undertake to pronounce English as it was pronounced in the times of Chaucer? In Italy and Greece there had been immense irruptions of the barbarian nations, a perfect deluge, who could not pronounce the delicate inflexions of the tongues, and what reason could there be for believing that they

that above all nations there was humanity, and above humanity, there was God (loud applause).

EASY LESSONS IN AGRICULTURE.

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Kellogg moved, seconded by S. A. Gardner, that "we of South Hastings Teachers' Association hear with sorrow of the death of our esteemed fellow-teacher, R. J. Kellogg, and we hereby wish to record our high respect for him as a gentleman, and a Christian. We feel his loss in our school, and deeply sympathise with his bereaved family."

Kellogg, followed by Mr. Johnston and Mr. Pashley, each highly of Mr. Goman as a teacher, and of his warm and studious habits, and his untiring zeal in his profession. The interest he took in the cause of education generally. Kellogg moved and seconded, that a copy of the above resolution be tendered to Mrs. Goman.—Carried.

A discussion followed, on the best means of preserving the conclusion being that teachers should take as much outdoor exercise as possible. Mr. Macoun said that bad school- many teachers.

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THE ANNUAL CONVENTION

OF THE

TEACHERS' ASSOCIATION

OF THE

PROVINCE OF ONTARIO.

To the Teachers, Inspectors of Schools, and Friends of Education, in the Province of Ontario:—

The twelfth Annual Convention of the Ontario Teachers' Association will be held in the Theatre of the Normal School Buildings, Toronto, on Tuesday the 6th of August next, at two o'clock in the afternoon, and continue in Session three days.

Tickets of membership can be procured by communicating with the Secretary. The annual fee is fifty cents to those who are members of Branch Associations, and one dollar to others. Ladies, engaged in teaching, free.

The managers of the Grand Trunk will grant a return ticket for one first-class fare, if the certificate of membership for the current year be presented at the commencement of the journey on the Grand Trunk Railway.

The Great Western, and Northern, will grant return tickets for one and a quarter fare, on presentation at their stations in

nant representations of the two quarters between America and England, and beyond that the American child hardly knew any history at all. He grew up with a mind imbued with these views, and when he took part in politics he carried into effect the feelings which, in his childhood, he had imbibed. They, at Montreal, would try to study history in a different spirit, they would not forget that they were a nation and connected with a nation on the other side of the Atlantic; they would not forget that they had national duties, and

to the frozen heights of the Alps, and firmly held in his hand of ice the banner, with the strange device, *Excelsior!*

His Honor Judge Gowan, one of the most valued friends and promoters of education in the County of Simcoe (the oldest member of the Educational Board in that county), being absent on his judicial duties, sent the following letter to Mr. Boys, explaining his absence:—

ARDRAVEN, BARRIE, 24th April, 1872.

DEAR SIR,—I have to acknowledge the receipt of your letter of the 14th inst., informing me that the Board of Public School Trustees of Barrie have invited the Rev. Dr. Ryerson to lay the corner-stone of the new school house, on the 1st May next, and that you have been directed to invite me to be present on the occasion.

In reply, I beg to say that I deeply regret that the day named is the day appointed for one of my Courts forty miles and that, consequently, it will not be in my power. Ever since I came to this country, nearly thirty years, I have been connected with the school system, having held the position of Trustee of the Grammar School, and the position of Chairman of the Board of Public Instruction from its first institution by recent enactment, and, with the exception of a few days, I am the only member of the original Board.

I have seen the gradual improvement in the schools, the improvement in the schools in this country from their beginnings to the present advanced and most prosperous state, so you will understand my disappointment in not being present on the interesting occasion of laying the corner-stone of the Public School House of Barrie, by the Chief of Education.

My position as Secretary and Treasurer of the Grammar School and Chairman of the Board of Public Instruction in the largest county in Ontario, brought me in constant contact with the Education Office in Toronto; and I can assure you, able, zealous, and wise administration of the schools by Dr. Ryerson and his assistant, Dr. Hodgins, has, I believe, had a happy effect,—fostering the increase of schools, better management,—giving them efficient teachers, and, by the means, within easy access to all, of so common education to the youth of this county, superior education in the Grammar Schools.

It would have afforded me much pleasure had I been able to say as much to Dr. Ryerson, when he comes among us on the 1st of May; and, although I have not always been a Chief Superintendent in some matters of detail, my country is very largely indebted to him for earnest and well-directed efforts in the cause of education.

May I ask you to lay this letter before the Trustees, and offer them my congratulations upon the prospect of an early day one of the best and most commodious in the Province.

I am, dear Sir,

Very truly yours,
JAS. R. G.

Wm. Boys, Esq.,
Chairman of Board of
Public School Trustees, Barrie.

REV. MR. MILNER and REV. MR. MORGAN spoke after which MR. BOYS said, I would now thank you for your presence, and beg you to join in singing the national anthem, "God Save the Queen."

This was done with hearty good will, and the assembly dispersed, well pleased with the ceremonies they had witnessed. Three cheers were given for the Queen, three cheers for the son, and three cheers for the Chairman. Before closing, help mentioning the admirable manner in which the For such little ones, the time kept was excellent, Morgan deserves the highest praise for the exertions he has made in teaching them the pretty pieces selected.

PROF. GOLDWIN SMITH ON EDUCATION.

At the recent convocation of McGill College, the professor addressed the assembly in the following terms:—He said that he had once before the honour of addressing that University: he was then a student, and was not so now, for the Corporation had invited him to give a course of history lectures, and that he had gladly accepted the time to be connected with the staff. A special interest attached to this from its connection with the great University, which though it could not be said

she held the gorgeous East in fee," yet had a commerce which rivalled the Venetian. From the report that had been placed in his hand he regretted to see that the liberality of the city hardly kept pace with the usefulness of that institution; the subscriptions for the general endowment had not advanced beyond the point indicated in last year's report. That might possibly make that University envy the position of others which were connected with the State, and which received large annual allowances, but he believed that on the whole the position of that University was better than that of the others. In course of time private munificence would be awakened, and it must be recollected that private munificence could hardly find a place in institutions supported by the State, because in that case it did no more, in fact, than displace a certain amount of State appropriations.

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2

Toronto of a certificate of membership, and the Nipissing will grant a return ticket for one fare on the same conditions.

Efforts will be made to secure accommodation on as favourable terms as possible for members of the Association while in Toronto. A person will be in attendance at the Theatre of the Normal School Buildings, on the first day of the Session, to give the necessary information.

The opening address will be delivered by the President, or in his absence by the first Vice-President, at half-past seven o'clock on Tuesday evening.

Addresses may be expected from the Rev. E. Ryerson, D. D., LL. D., Chief Supt. of Education, J. A. McLellan Esq., M. A., LL. B., High School Inspector, and others.

Papers will be read on the following subjects:—

1. Organization of Schools, by J. R. Miller Esq., County Inspector, Huron.
2. Technical Education, by J. Howard Hunter, M. A., Principal, Collegiate Institute, St. Catharines.
3. The New Regulations and Limit Tables for schools, by Samuel McAllister, Esq., Head Master, John St. School, Toronto.
4. Normal Schools, by Thomas Kirkland, M. A., Science Master, Normal School.
5. Higher Education of Women, by Richard Lewis, Esq., Head Master, George St. School, Toronto.

The following Committees will report.

- The Committee of Public School Masters.
- The Committee of Public School Inspectors.
- The Committee of High School Masters.

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a day. (Applause.) But all sensible people were agreed that some improvements were now required in the education of women, and that all studies which could elevate them should be free and open to them, and he was very glad that the Montreal University was taking an active part in that work.

There was one point that he confessed he was glad to see that the authorities of the University were conservative in, and that was that they pronounced Latin and Greek in the old way. Now

some universities had with a great flourish, notably that of Harvard, adopted what they called the real Latin and Greek pronunciation. If they got the real pronunciation no doubt it would be a good thing, but what chance was there of their doing so? No doubt they could make certain discoveries as to the pronunciation of certain letters—such discoveries had been made, but let them consider this fact, from the time of Chaucer up to the present time in England there had been no great addition to the population from external sources, during the whole time there had been an unbroken current of literature, but he should like to know who would now undertake to pronounce English as it was pronounced in the times of Chaucer? In Italy and Greece there had been immense irruptions of the barbarian nations, a perfect deluge, who could not pronounce the delicate inflexions of the tongues, and what reason could there be for believing that they ever preserved the true pronunciation? Unless they could recover the real Latin and Greek

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Any member of the Association may propose other subjects for discussion, which, if approved of by the Board of Directors, will be introduced to the Association, with the understanding that the proposer lead off in the discussion.

The Board of Directors earnestly hope the Local Associations will be represented by Delegates at the ensuing Convention, as provided for by the Constitution.

The following article of the Constitution of the Provincial Association refers to the formation of Branch Associations:—

"ARTICLE 5.—Every Local Association appointing a Delegate to represent it at the Annual Meeting, shall be a Branch Association; and shall, through its Representative, have one vote for each of its members connected with this Association not present at the Annual Meeting, provided that the names of such members and such Representative, together with the annual fees for the same be transmitted to the Secretary, on or before the first day of July in each year."

ARCHIBALD McMURCHY,

Secretary.

TORONTO HIGH SCHOOL,
June, 1872.

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Chairman of Board of

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Chairman, High

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she held the gorgeous East in fee," yet had a commerce which rivalled the Venetian. From the report that had been placed in his hand he regretted to see that the liberality of the city hardly kept pace with the usefulness of that institution; the subscriptions for the general endowment had not advanced beyond the point indicated in last year's report. That might possibly make that University envy the position of others which were connected with the State, and which received large annual allowances, but he believed that on the whole the position of that University was better than that of the others. In course of time private munificence would be awakened, and it must be recollected that private munificence could hardly find a place in institutions supported by the State, because in that case it did no more, in fact, than displace a certain amount of State appropriations.

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He was glad that the Corporation had included the study of history in their course, because it might have a beneficial effect upon their politics, as it would give more elevation and breadth of view, and tend to make broad national considerations, considerations of humanity, paramount over those of mere faction. We in Canada had adopted the British constitution, but we had adopted it somewhat in the same way as the Chinese shipbuilder did: he had an English merchant ship as a model, and he reproduced it dry rot and all. (Laughter.) We had adopted party government. That kind of government was a very natural thing where there had been all along strong dividing interest, but here there were no really broad distinguishing lines, and the consequence might be that we should sink more into a government of faction, with more and more danger of submitting at no very distant time to the domination of scoundrels. (Laughter and applause.) That was to be averted mainly by the instruction of Canadian youth, to whom a great part of the formation of the institutions of this country and the development of the national character was assigned, and something might be done by elevating and liberalising the studies of the Universities. History was the study that had most to do with politics, and if studied in a proper spirit, it was that which was most calculated to form liberal minded, honest minded, and honest politicians. They had an instance of that on the other side of the line. When he first came to the United States, he was told by the Americans that the Anti-British feeling was neither deep nor likely to be lasting, but he was sorry to say that his residence there led him to the opposite conclusion. In the Western States the feeling was comparatively weak, but in the Eastern States he was afraid that it was still strong.—There was the memory of the old quarrel; we had forgotten it, and had even removed Washington, the patriot of his time, into the English Pantheon, but the American did not lose sight of it, and seemed to have lost one virtue of the English character, the power to forgive and forget. Then there was the Fenian element which increased the feeling and still more the temptation on the part of politicians to display it; but he was convinced that one considerable cause of that ill feeling was to be found in the ordinary school histories. They consisted almost entirely of exaggerated, malignant representations of the two quarrels between America and England, and beyond that the American child hardly knew any history at all. He grew up with a mind imbued with these views, and when he took part in politics he carried into effect the feelings which, in his childhood, he had imbibed. They, at Montreal, would try to study history in a different spirit, they would not forget that they were a nation and connected with a nation on the other side of the Atlantic; they would not forget that they had national duties, and

that above all nations there was humanity, and above humanity, there was God (loud applause).

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Mr. McKeown proceeded to demonstrate his method of teaching Fractions, by stating that he considered short definitions the best, and that he always found fractions one of the most difficult branches of arithmetic to make pupils thoroughly understand; and he then, in a lucid manner, proceeded to give his method of teaching Addition, Subtraction, Multiplication, Division, and Reduction of Complex Fractions; and in answer to questions, explaining reasons of the various rules, clearly proving to all that he thoroughly understood his subject.

The Inspector stated, in answer to a question, as to what he considered the best definition for a fraction, that "a fraction is an expression representing one or more of the equal parts into which any quantity may be divided." Mr. Gallivan showed his method of illustrating fractions by diagrams.

Mr. Johnson took up the subject assigned to him, viz., Participles. He began by saying that as all Participles partook of the nature of a verb and a noun, or a verb and an adjective, that they were either verbal adjectives or verbal nouns, and should be parsed as such. He illustrated the position he had taken by numerous examples of most difficult participial phrases, and invited teachers to give other examples, which were analysed in a very satisfactory manner.

Mr. C. P. Kellogg moved, seconded by S. A. Gardner, that "we the members of South Hastings Teachers' Association hear with much sorrow of the death of our esteemed fellow-teacher, R. J. Goman, and we hereby wish to record our high respect for him as a teacher, a gentleman, and a Christian. We feel his loss in our Association, and deeply sympathise with his bereaved family."

Mr. Kellogg, followed by Mr. Johnston and Mr. Pashley, each spoke very highly of Mr. Goman as a teacher, and of his warm friendship, his studious habits, and his untiring zeal in his profession, and of the interest he took in the cause of education generally. It was then moved and seconded, that a copy of the above resolution be sent to Mrs. Goman.—Carried.

A general discussion followed, on the best means of preserving health, the conclusion being that teachers should take as much out-of-door exercise as possible. Mr. Macoun said that bad school-houses kill many teachers.

Mr. Squiers then read an Essay on Agricultural Chemistry, which was listened to with deep attention. Mr. Pashley moved, seconded by S. A. Gardner, that the thanks of this Convention be tendered to Mr. Squiers for his able address.—Carried.

Moved by Mr. Pashley, seconded by Prof. Bell, that with the consent of Mr. Squiers, his Essay be published in the Belleville papers.

The Inspector stated that he was very sorry the Convention took the step it did at its last meeting in regard to Dr. Ryerson's work on Agricultural Chemistry; he said that the reports of the Convention were eagerly read, and that it had aroused a feeling against the book that it did not deserve. He felt the more sorry, because, at the time the motion was voted upon, *not one Common School Teacher* voted for it. Had the motion been the expression of the Teachers themselves, he would not have said anything against it. He said that the subject can be taught, and is being taught in many of our schools, and successfully too; he instanced Mr. McLachlan's school at Canifton, and Mr. Sprague's school at Smithville, also Mr.

Squier's school, 2nd Con. Sidney; he believed the book to be a good one, and whatever feeling there was against teaching it, came from a dislike of the subject, and not the book. He thought the only trouble was that scholars were not up in their other studies as a general thing far enough to commence the study of Agricultural Chemistry, he wished it distinctly understood that no matter what was said, the subject had to be taught in all schools as soon as they commence the 4th book.

Prof. Macoun said that immediately after the last Convention he examined the work, and commenced to teach it in his school; he considered it a good work, and he often since wondered how the Dr. had crowded so much in so small a space. In answer to a question as to how he would teach it, he said that he would endeavour to bring it down to the capacity of children, and that no true Teacher would attempt to teach such a work in any other way.

Prof. Bell thought the the book too highly concentrated to be taught verbatim to a scholar.

After some further discussion, the following motion was put:—

Moved by J. Squiers, seconded by S. Pashley, That it is the opinion of the Teachers of this Association, that Agricultural Chemistry should be taught in our schools to pupils who are sufficiently advanced, and we think Dr. Ryerson's book a suitable text-book; and we hear with sincere regret that the erroneous impression has gone abroad, that this Association at its last meeting condemned the work entitled, *First Lessons in Agriculture*, by Dr. Ryerson.—*Carried unanimously.*

The Session was then brought to a close. The present meeting was a very successful one, and of deep practical value to the teachers; and we cannot too highly commend the action taken by the Convention with regard to Dr. Ryerson's book. And it should be distinctly borne in mind by both teachers and parents that, no matter what may be said, or what action may be taken, the subject must be taught in our schools.—*Belleville Intelligencer.*

KINGSTON COLLEGIATE INSTITUTE.

It must afford the citizens of Kingston a good deal of satisfaction to find that the educational interests of the young are so well cared for. The University will always confer a high status in such matters, and it is gratifying to find that other seats of learning are now assuming such a place in public confidence. The training of the young is a difficult duty, and the teacher's position at all times none of the most pleasant, but these difficulties vanish at times, and these unpleasanties are forgotten in the contemplation of the success achieved by the ex-pupils in the honourable race for academic distinction. The collegiate institute in our city has long been known for the efficiency of its training, and the results in past years are now nobly vindicated by the stand taken by ex-pupils at the recent convocation at Queen's. The facts noted below must afford a conclusive evidence of thorough and systematic preliminary work, and add another laurel to the already high position attained by the institute. The masters, in a course of long and arduous training of the young, have now acquired the proud position of knowing how to do their work, and the proof that they have done it is fully admitted by all.

At the recent University examination there were twenty first prizes gained, and of these fourteen were carried off by ex-pupils; five second prizes offered, of which four were gained; and in every instance of these seconds, except one, an ex-pupil got the first. Below the prize grade, is a class called "honourably mentioned," and in this we find the names of ex-pupils figuring fifteen times. Another very high class of University prizes is offered for the best pass papers in each year, and these prizes were carried off in the 1st, 2nd, and 4th years by the ex-pupils, and the fact especially noted by Principal Snodgrass, that the men in the first and second years stood far higher than the similar prize men last year, Mr. Mundell having gained 96 per cent., and Mr. McIntyre 88 per cent. on all papers submitted. In the University class lists, ex-pupils stand 1 and 2 in the fourth year; 2 and 3 in the third; 1 and 5 in the second; and 1, 2, 3, and 5 in the first.—*Chronicle and News.*

DEAF AND DUMB INSTITUTION, BELLEVILLE.

We are in receipt of the First Annual Report of the Ontario Institution for the Deaf and Dumb established at Belleville, for the year ending the 30th September, 1871.

In glancing over the contents of the first annual report of this important Institution, we find that the staff of teachers numbers eight, exclusive of the Principal, W. J. Palmer, M.A., Ph. D., and that there were in the Institution on the 30th September last 107

pupils, 54 of these being supported by parents or guardians, 45 supported by municipalities, and eight by the Province as orphans, having neither parents nor guardians. We also find that from the best authority available to the Principal there are 250 deaf mutes in the Province who have not yet been entered as pupils. Among the number reported there are three in the Counties of Leeds and Grenville, while only one, Sarah M. Earl, has been sent to the Institution from these Counties.

An opportunity being offered for the education of this unfortunate class of our fellow subjects, it would be well that their friends should make an effort to bring them under the excellent training to be obtained in such an Institution. It may be that the public are not fully aware of its advantages, or the mode of obtaining entrance, we therefore make no apology for appending to these brief remarks the rules bearing on the admission and discharge of pupils. The rules are as follows:—

I. All deaf mute youths of both sexes between the ages of seven and nineteen, not being deficient in intellect, and free from contagious disease, being residents of the Province of Ontario, shall be admitted into the Institution.

II. The period of education and instruction for any pupil shall not exceed seven years, and no pupil shall remain in the Institution after the age of twenty-one, unless under special circumstances, discretionary power in this respect to be vested in the Inspector and Principal.

III. The regular annual School Session shall commence on the first Wednesday in September each year, and shall continue till the last Wednesday in June, and applications for admission must be made in good time to ensure the pupil reception at the commencement of the Session. After the first year, no applications for admission will be received after the first Wednesday in September, except in special and extraordinary cases.

IV. Education as well as instruction in such mechanical manual employments as may be inaugurated in the Institution, including books, stationery, maps, and all school appliances, together with bed, bedding, towels, and general maintenance (excepting only wearing-apparel and food), to be free to all youths specified in Sec. II. of this by-law.

V. Parents, guardians, or friends, who are able to pay for the board of pupils, to be determined and fixed at the beginning of each Session, half of which amount shall be paid in advance, and the other half before the close of the Session.

VI. The cost of board for the opening Session is hereby fixed at the rate of six dollars per month, commencing from the date of admission of the pupil, but in all future Sessions the cost of board will be charged for the full annual school term between the first Wednesday in September and the last Wednesday in June, and no deduction will be made from this charge in consequence of absence or any other cause whatever, except sickness.

VII. Parents, guardians or friends, who are unable to pay the above amount for the board of pupils, shall apply to the councils of the county, township, city, town, or incorporated village in which they reside, and the clerk of the municipality shall make application to the Inspector or Principal for the admission of such pupils into the Institution; and the admission will be awarded on the municipality becoming responsible for board, in accordance with terms stated in Section IV. and V. The whole question in respect to the inability of the applicants to pay, to be determined by such municipality, without reference to the Government or the officers of the Institution.

VIII. Parents, guardians or friends, who are able to pay for the board of pupils, will make direct application to the Principal for admission into the Institution.

IX. Indigent children, without parents, to be boarded, clothed and educated at the expense of the Government, on the application for admission of the municipal corporation in which the orphan resides, with the certificate of the warden, reeve or mayor, and the county judge attached. Travelling expenses of such pupils, to and from the Institution, to be defrayed by such municipality.

X. Pupils residing out of the Province may be received into the Institution, and entitled to all its benefits, at the rate of \$125 per annum, payable semi-annually in advance, for board, lodging and education, provided there is vacant accommodation.

XI. It is required that the pupils sent to the Institution shall be decently and comfortably clothed, and furnished with a sufficient change and variety of apparel to ensure cleanliness and comfort.

The name of the boy or girl to be written on each article with permanent marking ink.

XII. The vacation will commence on the last Wednesday in June, and end on the first Wednesday in September, during which time every pupil must be removed to his or her home or place of abode.

XIII. All travelling expenses of pupils to or from the Institution, whether at vacation, or in consequence of serious sickness,

must be defrayed by the parent, guardian, friend or municipality sending such pupil.

XIV. It is further required, that in case of serious sickness, death, misconduct, or deficiency in intellect, that the pupil shall at once be removed from the Institution.

I. Papers on Practical Education.

1. HOW TO TEACH HISTORY.

But let boys and girls be taught that history is one great unit, and that every part of it is joined by indissoluble links, one forming naturally after another, so that if one is left out the chain will be incomplete. Let them learn to picture, reverently to themselves, God sitting upon His throne, before whom the inhabitants of the earth are as grasshoppers, looking patiently down watching the nations as through all the ages they work out unwittingly His wise decrees. Let them see how one ancient nation after another emerges mysteriously from the unknown past, enveloped in the mist of ignorance, superstition and barbarism, and let them watch how gradually they draw nearer and nearer to where the one bright centre of history is set up—the Cross of Christ—till the light falling on them from it, they are illumined and civilized. Let them compare one nation with another and see how the lovely vales and streams, the soft air and brilliant skies of Southern Greece influence her in her greater refinement of character, her beauty of painting and grace of architecture, in the character of her frivolous and pleasure-loving gods and goddesses, her schools of philosophy, her smoothly-flowing language and poetical thought; and then note the difference in the stern and cruel gods, the bold and the adventurous warriors, the absence of all luxury and beauty, the harsh language and rude legends of the old Vikings of the frozen region of the North. Then see how Greece with her dreamy religion and vague philosophy; Rome with her human-like gods; Britain with the cruel teachings of the Druids; Scandinavia looking forward to her sensual Valhalla and the company of her warrior gods—all dissatisfied alike with the deities their own minds had imagined—are gradually prepared for the reception of the satisfying truths of the Nazarene—the God-man. Let them see how the Romans in their haughty pride of heart, thinking but of conquering the whole world to their way and appropriating to themselves all the beauty and wealth of other nations, were but carrying out His plans who alone rules—were but rejoining in one all known empires, so that a knowledge of civilization and a wise code of laws might be spread; that the light from the Cross might be shed on them and the Kingdom of Christ might be enlarged, and His truths more easily and widely diffused. Then let them see how England emerges from the darkness, and receiving influences from north and south alike, grows to be one of the most mighty powers on earth after proud Greece and Rome had ceased to serve His purposes and had sunk into oblivion, and thus true religion and the accumulated wisdom of succeeding nations and ages are preserved and spread over all the earth.—*New Dominion Monthly*.

2. AN IMPORTANT POINT IN THE STUDY OF HISTORY.

Every teacher, from the beginning, and all through the years of study, ought to insist upon the constant use of the atlas, and should consider no lesson perfect in which every place has not been carefully looked for. A greater knowledge of geography can be gained by this than in almost any other way, and it impresses upon the memory the connection of places with the great events which have happened in them, better than merely getting such a lesson by rote as a separate thing afterwards.—*From an article in the New Dominion Monthly for May*.

3. THE ALPHABET AND ITS ORIGIN.

At the Royal Institution on the 15th ult., Sir Henry Holland being in the chair, Mr. John Evans, F. R. S. delivered a lecture on the above subject. He began by stating that he proposed to consider, 1, the origin of writing and the manner of its development in different parts of the globe; 2, the original alphabet from which our own was derived; and 3, the history and development of that original alphabet. That many savages in the lower stages of civilization have some ideas of pictorial records, he proved, by referring to diagrams illustrating the pictorial writing of Esquimaux, North Americans and others; and he showed that those of the Mexicans not only represent wars, migrations, famines and phases of domestic life, but give dates; while in Peru there exists a kind of Memoria Technica. The Mexican system of writing improved but never be-

ame alphabetical. The Chinese characters were at first pictorial; but in time the early plain outlines were changed into forms more in accordance with a method of writing. The language is monosyllabic, and about 450 words are made up by different accents or tones to 1,200, one sound representing more than one sense.—The early forms of Egyptian hieroglyphics, which seem to have been both pictorial and symbolic, afterwards became syllabic. Their most formal writing was the true hieroglyphic; their more cursive being termed hieratic, and the most cursive, demotic; cuneiform writing was probably of similar origin, but modified, in consequence of the method of writing by impressed, wedge-like triangles. After referring to diagrams illustrating these various kinds of writing, Mr. Evans pointed to the scientific hieroglyphics in use by ourselves, such as the signs of the zodiac and the planets and the mathematical signs = and ÷. 2. According to the testimony of ancient historians, the Phœnicians were the first inventors of a real alphabet, the earliest known example being probably the recently discovered Moabite stone, dating before 900 B. C. From the Phœnician names Alph. Beth, Gimel, Daleth, &c., the Greek names Alpha, Beta, Gamma, Delta, were derived and adopted by the Romans; and the order of the letters is preserved in the 119th Psalm, and other parts of the Bible. By the aid of a series of interesting diagrams, Mr. Evans traced the intimate connection between the Roman, Greek, and Phœnician alphabets, letter by letter, illustrating his remarks by drawings of ancient coins and inscription. 3. He then went through the early Phœnician alphabet, with the object of showing that the names of letters were not arbitrary, and that each had a meaning, though not in all cases to be recognized with certainty, and he further illustrated his ideas, by exhibiting some new diagrams suggestive of still earlier forms of the letters more closely resembling the objects which he considered they were intended to represent. After discussing several objections to this opinion, he said that the Phœnicians seem to have taken the first ideas from the Egyptians, and then to have invented for themselves a more purely literal, and therefore more simple and useful, alphabet. This does not appear, like the letters of late hieroglyphics, to consist of a few survivors from a whole army of symbols, but to bear some traces of sequence; for it includes the names for ox and house, door and wicket, hand and palm, water and fish, eye and mouth, and similar objects. Judging from this alphabet, its inventors appear to have been a settled agricultural people, with a civilization equal to that of the bronze-using inhabitants of the Swiss lake dwellings.—*Toronto Mail*.

4. COMPOSITION, LETTER-WRITING, &c.

To the Editor of the Journal of Education.

SIR,—I have often thought that in many, if not in most, of our Public Schools there is a great deficiency in the exercises referred to in the heading above. How often we see boys and girls who have attended School for a considerable number of years, and have acquired what would generally be considered very fair education, and still are unable to write anything like a creditable composition on the most common subjects, or even indite a good common letter. This we know is certainly the case, and it demonstrates very clearly the necessity of special and frequent exercises being given in every Public School, in these very important branches of education. Practical education is what is most needed. The wise counsel so often quoted—"Let us teach our sons that which they will practise when they become men." is quite appropriate here. We may also include the female portion of our youth and say—"Let us teach our daughters that which they will practise when they become women."

Letter-writing, &c., is therefore one of the things most needful to be taught every boy and girl, as all are required to practise this during life to a greater or less extent. The ability to write compositions on various subjects is also an accomplishment which all should acquire. Some acquaintance, too, with the forms necessary for transacting common business, such as the giving and receiving of notes, receipts, etc., is also very essential in the education of every boy and girl, as very few, if any, pass through life without having need to make use of this kind of knowledge.

There is but little if any use in pupils learning now to use the pen in making beautiful, well-formed letters, unless they also learn how to put ideas together in well-constructed sentences and paragraphs.

Lessons should also be given in punctuation, etc., as this is very essential in order to make writing intelligible, though it is often overlooked by those who ought to observe it.

My plan is, to give a lesson on the black-board once a week on these subjects, and also, once a week require all who are sufficiently advanced to write letters or compositions of some kind on their slates, which are then handed to me to be corrected as may be necessary. Also, once in a while—perhaps once a month—I give

them a subject to write on, and allow them a few days to prepare it at home. This, of course, is done on paper.

I have seen very good results follow these exercises, and have been highly gratified at the very successful attempts at composition of many of my pupils; also at the very creditable letters I have received from some who were quite young, but whose letters were far superior in execution to those of a majority of adults.

Yours most respectfully,

JAMES LAWSON,
Teacher.

Battersea, April 6th, 1872.

5. INTEREST THAT IS INTERESTING.

To the Editor of the Journal of Education.

SIR,—Mr. McLellan's note on one of the problems in the recent examination papers induces me to make a few remarks on a similar one which I have since noticed, on page 203 of Sangster's Algebra. Inferring from the answer, the text-book reasons that as \$1 is due the last day, \$2 the preceding one and so on, the whole principal is equal \$1 for $(1+2+3+\dots+60)$ days, or \$1 for 1830 days. Interest on \$1 for one day = $\frac{1}{1830}$ and for 1830 days = $\frac{1830}{1830}$; this divided by number of payments gives $\frac{1}{1830}$; daily payment = $1 + \frac{1}{1830} = \$1.000546$; or, in other words, it is assumed that \$1 plus interest on remaining debt is paid each day and that the sum of the payments divided by their number is the equated daily payment, = $\left\{ 2(1 + \frac{1}{1830}) + (60-1) \times \frac{1}{1830} \right\} \frac{60}{2} \div 60 = \1.000546 . This evidently is unfair to the payer as he loses interest by part of his payment being made in advance. The following seems a better solution. Let a = daily payment.

Then 1st day's interest = $\frac{1}{1830}(60)$
2nd " " = $\frac{1}{1830}(60-a)$
3rd " " = $\frac{1}{1830}(60-2a)$
4th " " = $\frac{1}{1830}(60-3a)$ &c.

This being a series whose first term, common difference, and number of terms respectively are $\frac{60}{1830}$, $-\frac{a}{1830}$ and 60, we have $60a = 60 + \left\{ 2 \left(\frac{60}{1830} \right) + 59 \times -\frac{a}{1830} \right\} \frac{60}{2}$ whence $a = \$1.000546$.

Solving the \$5000 farm problem by the text-book principle, we get the annual payment = \$1437.50, while by the latter method above it is \$1422.01, making, on the whole, a difference of very nearly \$62.

Taking compound interest which only is fair we reason thus. Let a = daily payment as before, and r = daily interest on \$1. Then first day's principal and interest = $60(1+r)$; deducting daily payment $60(1+r)-a$ is left; this at interest for the second day amounts to $\{ 60(1+r)-a \} (1+r)$.

Similarly, third day's amount = $\left\{ \{ 60(1+r)-a \} (1+r)-a \right\} (1+r)$
" fourth " " " $\left\{ \{ \{ 60(1+r)-a \} (1+r)-a \} (1+r)-a \right\} (1+r)$

Deducting a and removing brackets we find the principal at the end of the fourth day = $60(1+r)^4 - a(1+r)^3 - a(1+r)^2 - a(1+r) - a$.

In like manner, we find, at the end of the n th day the remaining principal = $60(1+r)^n - a(1+r)^{n-1} - a(1+r)^{n-2} - \dots - a$
= $60(1+r)^n - a \left\{ (1+r)^{n-1} + (1+r)^{n-2} + \dots + (1+r) + 1 \right\}$
= $60(1+r)^n - a \left\{ \frac{(1+r)^n - 1}{r} \right\}$ But when the debt is paid, the above expression = 0; therefore

$$60(1+r)^n = a \left\{ \frac{(1+r)^n - 1}{r} \right\}$$

whence $a = \frac{60r(1+r)^n}{(1+r)^n - 1}$ =, in the case before, to

$$60 \times \frac{1}{1830} \times \left(\frac{6001}{6000} \right)^{60} = \frac{.01 \times 1.010138}{.010138}$$

Applying this to the examination question, we get $a = \frac{5000 \times .06 \times 1.06^4}{1.06^4 - 1}$

$$= \$1442.98$$

The following somewhat similar question was discussed by the legal and commercial men of a town in Western Canada, but entirely

failing to agree they submitted it to the writer for his decision. It arose from a protested case in money-lending.

A lends B \$1000 payable in ten annual instalments of \$160 each. What rate per cent. simple interest does B pay for his money?

A majority thought his rate to be $10\frac{1}{11}$ which is in accordance with the text-book principle, but from the following it will be seen that he paid the usurious per centage of $21\frac{2}{3}$

Interest for first year = $1000r$.
" for second " = $(1000-160)r$
" for third " = $(1000-2 \times 160)r$.
" for fourth " = $(1000-3 \times 160)r$ &c.

From this series we get the total interest $\$600 = 2800r$ where r = yearly interest on one dollar. Hence rate per cent. = $600 \div 28 = 21\frac{2}{3}$

I am pleased to note, for reasons too many to mention here, the prominence given to commercial arithmetic by the central committee of examiners.

I remain, Sir,

Your obedient servant,

JOHN CAMERON.

COLLEGIATE INSTITUTE,
Cobourg, March 25th, 1872.

"THE CARPENTER'S SQUARE."

The readers of the Journal of Education will remember this question in the January number;—it was to find what length cut off the longer side of a Carpenter's Square and as much added to the shorter side, so that the hypotenuse may be rational. Let x = the quantity.

Then $(2-x)^2 + (1+x)^2 = 5 - 2x + 2x^2$, this is rational when $x=2$, hence we put $x=2-Z$, and $5-4+2Z+2(4-4Z+Z^2) = 9-6Z+2Z^2$, equate this with, $(3-p)^2 = 9-6p+2p^2$

$6p-6 = 2p^2-2-6p$
 $6p-6 = 2p^2-2-6p$
 $12p-4 = 2p^2$
Take p any convenient quantity that will make x positive, if $p=2$,
 $x = \frac{4}{2} + \frac{50}{2} - \frac{60}{2} = \frac{1}{2}$ of a foot.

$(2-\frac{1}{2})^2 + (1+\frac{1}{2})^2 = \frac{25}{4} + \frac{9}{4} = \frac{34}{4} = \frac{17}{2}$, the hypotenuse would be $2\frac{1}{2}$ feet.

The following question I published in some of the local papers, but no one has offered a solution: An Indian Reserve is bounded by four straight lines, 1, 2, 3, 4 miles; required its maximum area in square miles?

JOHN IRELAND.

6. VALUE OF PUBLIC SPEAKING.

BY HENRY WARD BEECHER.

Some one writes to us that he is studying at a law school; that, besides knowledge of law, he is desirous of attaining the art of oratory, and he asks that we will give him such advice as our experience may suggest.

We can hardly hope to be of much service to the enquirer. We do not know his temperament, his disposition, his attainments, his habits, all of which would modify any instructions likely to be of benefit. It is personal that peculiar advice that each man needs, and that must be given by some one who knows the circumstances of the applicant.

Some general hints, applicable to all young aspirants for public speaking, may answer a good end.

1. The earlier one begins to practise public speaking the better. For although the gift, in point of fact, develops late in life, it is only in the case of those who have a strong, though, it may be, dormant talent for it. No man has learned any art until he can practise it spontaneously, without conscious volition. If this proves true in music, in drawing, in the dance, or graceful posturing, it is even more apparent in oratory. Parents and teachers should encourage children to narrate, to converse—for story-telling and fluent conversation are essentially of the same nature as oratory.

2. The habit of thinking on one's feet is invaluable. Great orations may be prepared with elaboration and study, not alone in their substance, but in form. Such we know to have been the preparation of orations which continue to be read from age to age.

But for the purposes of American life, one must be qualified to speak well without laborious preparation of language, and this can only be done when one can command his thoughts in the face of an

audience. The faculty of doing this is greatly helped by an early and persistent practice. Aspirants for oratorical honours, without neglecting the severe preparation of the study for especial occasions, should lose no opportunity of speaking off-hand. One should not be down-cast at failures. They are often far better for the student than successes. He who goes to school to his mistakes, will always have a good schoolmaster, and will not be likely to become either idle or conceited.

3. Public speaking means business, or ought to. Although there is a great deal of fancy talking, after-dinner speeches complimentary speeches, and religious exhortations, all of which are meant to fill up time, yet public speaking, in its nobler aspect, is an attempt to gain some definite and important end by the use of reasons and persuasions. When a man seeks his neighbour for a business conversation, he knows just what he wants, and he settles with himself by what method he will get it. This is the very genius of a good preparation for a speech—to know definitely what you wish to gain of an audience, and the means by which you propose to secure it. All true oratory is practical psychology.

4. A man may speak deliberately or even slowly, but no man can succeed who speaks hesitatingly—who goes back on a sentence and begins again. Such a speech is like a shying horse or a balking mule. At all hazards, the young speaker must learn to push on—to keep a current moving from beginning to end of his address. If you drop a stitch don't stop to take it up. If you stumble on a word, let it go. Don't go back to it. Keep right on, no matter what happens, to the end. Momentum is of more value than verbal accuracy. Of course the best speech is that which is full of good substance, expressed by the best language, and fluently uttered. But while one is learning, he should never let himself be tripped up by a word, or the want of one. Jump the gap; run over the mistake. Keep right on. It will be time enough the next endeavour to profit by the experience of mistakes.

5. If one is slow of thought, dull of feeling, very cautious and secretive in nature, without that latent combativeness, which tends to protect one's mind upon another's, or if one be excessively sensitive, so that a mistake gashes like a lancet, it is not likely that he will succeed as a public speaker.

III. Biographical Sketches.

1. JOHN B. MARKS, Esq.

Mr. Marks was born in Plymouth, in the year 1777, and entered the Royal Navy at an early age. From his good conduct and intelligence he was promoted to the post of Captain's Secretary, in which capacity he served under Lord Nelson, and was present at the battles of Copenhagen, the Nile and Trafalgar. In the year 1813 he came to Canada in H. M. S. *Woolwich*, for service on the lakes, in which service he continued for over 31 years. He was clerk in charge at the Kingston Dockyard; Purser of H. M. S. *St. Lawrence*, one hundred and twenty guns; built at Kingston; Secretary to Commodore Sir Robert Barrie, Deputy Store-keeper at Montreal; and he filled many other offices in the naval establishments of Canada. After the breaking up of the Dockyard at Kingston, Mr. Marks continued in charge of the Government property for many years, and being much inclined to agricultural pursuits, commenced farming in Pittsburg in the year 1836, from which his attention was diverted by the Rebellion in 1837, when he returned to active service in the Navy, and was employed in the Dockyard as Naval Store-keeper till 1844, when he retired upon a good service pension of £200 sterling per annum. Captain Taylor, who is still living, then succeeded him, and gave up the Dockyard officially in 1854. In civil life Mr. Marks ably filled many important offices. He was appointed first Warden of the Midland District by patent in the year 1842, which office he found it necessary to resign in consequence of his official duties in the Dockyard. After his retirement in 1844 he was again appointed Warden by patent. When that office became elective Mr. Marks was elected Warden by the County Council, with many expressions of esteem, and he continued to serve as Warden for a considerable period, during which he rendered great and effectual service to the Municipal Council, then unaccustomed to the conduct of public affairs. Mr. Marks ably discharged the duties of many other civil offices. He sat in Parliament as Member for Frontenac for several years; he was Inspector of the Penitentiary; Auditor of Public Accounts; Colonel of the 3rd Regiment of Frontenac Militia; and a Justice of the Peace. He was a man of great natural ability; possessed a masculine and powerful intellect; was in politics a strong Conservative; and in all things a thoroughly honest man. He spent almost the whole of an unusually long life in the service of his country and his Sovereign, and now descends to the grave leaving an untarnished reputation, troops of friends, and not a single enemy.—*Chronicle and News*.

2. R. W. KERR, ESQ.

R. W. Kerr, Esq., was born on the 17th March, 1810, at the family residence, Tulley Hall, Sligo, Ireland, and was, therefore, at the time of his death, a few days over sixty-two years of age. Having fitted himself for and embraced the profession of land surveyor and engineer, he practised it for a short period in Enniskillen. He was offered a position in the Sligo Branch of the Bank of Ireland, that of agent, which he accepted and held until his removal to Canada in 1835. Shortly after coming to Canada he settled in Dundas as engineer of the Desjardins Canal. He held the position of Captain of Militia during the rebellion in 1837. In 1840 he removed from Dundas to a place near Guelph, where he resided and practised his profession until 1847. In the last named year he removed to Hamilton, and in 1853 was appointed to the post of City Chamberlain, which he held up to the day of his death.—*Toronto Mail*.

3. JOSEPH H. LAYLOCK, Esq.

Joseph H. Laylock, Esq., one of the first settlers of Blenheim has departed from our midst. He had been complaining for a few days of a pain in the side, but retired to bed on Friday night last in apparent health; however, in a short time after, one of the family entered his room to get the lamp and found his spirit had fled. He seems to have suffered no pain, as the limbs were not convulsed nor the clothing disturbed. He was about 72 years old, a native of England, and came into this country about 40 years ago. He had ably filled the office of Township Clerk and Treasurer for nearly 35 years. He was always at his post of duty, being absent at only two meetings of the Council during this long term of office. Previous to this he had traversed the wilds of Blenheim as Assessor when dense forests covered the land, dotted occasionally by a log hut, surrounded by a few acres of clearing. The deceased was of a genial disposition, and his memory was replete with anecdotes and reminiscences relating to the early times and settlers.—*Brantford Courier*.

4. COLONEL FRANCIS DRAKE.

A valued correspondent sends us the following for publication:—“On the 3rd inst., that good, friendly and highly esteemed old gentleman departed this life, after a short illness of three days, at his ancient and well-known residence on the River Thames, in Raleigh, to which he moved, as he habitually said, in the year one (1801), being then twelve years of age, and eighty-four at the time of his decease. His remains were interred beside those of his beloved wife in the new cemetery of this town, after divine service had been performed in the Catholic church. The Colonel was a loyal subject as shown during his whole life, particularly in his special services in the war of 1812, and in the Rebellion of 1837. His constant honesty and civility towards us all have caused him to leave after him thousands of friends and not one enemy. As some short notice of his history will, I doubt not, be desirable, I will say he was born at Carrillon, on the St. Lawrence, in the Province of Quebec. His father, Capt. John Drake, one of our first and most efficient settlers in this country, was a native of St. Mallins, County Carlow, Ireland. He was originally a Fitzpatrick, two of his brothers, Rory and Patrick, followed him to this country, and died here as good, honest, pious old bachelors under the old, noble Irish name *Fitzpatrick*. The Colonel's mother was a daughter of Donald McKay, a Scotchman, who came to Quebec as a member of the military band under the great General Wolfe, in 1759—he married shortly after a Lower Canadian lady. One John Peck, an Englishman, who was master of said band, was the first settler on Riviere a Peck, in Essex, and the venerable forefather of all our River Thames and Sydenham friends of that name,—married a *Demoiselle Brav* of Quebec, previously of L'Acadia,—and Mrs. Col. Drake was a daughter of one of his daughters, old Mrs. Williams, who also was interred here a few years ago, at the mature age of nearly one hundred years, being the widow of Thomas Williams, a U. E. Loyalist, from Kentucky, who was one of the earliest settlers in this part of the world, and forefather of the first Williams here.—*Chatham Planet*.”

5. MR. ROBERT RITCHIE.

This venerable old man, who was known to most of the older inhabitants of this city and neighbourhood, has gone to his rest. He died at the family residence, Belleville, at the advanced age of 87 years. Mr. Ritchie came to this place, then Bytown, about 38 years ago, the central portion of the Parliament Buildings now marking the site of his former residence, where he lived for over a quarter of a century. He came out to Canada in connection with

the Imperial service; and having received an appointment here in charge of the military stores, he retained this position until Ottawa ceased to be maintained as an Ordnance Depot. Many eventful scenes had he witnessed during his long life, some of them of a most stirring character. He accompanied the forces sent out to assist the Spanish patriots against Napoleon in 1808, as Sergeant in the Royal Artillery, and was present at the celebrated retreat of Corunna. Being about ten or fifteen yards from Sir John Moore, when he fell, he witnessed that event, saddening to the heart of the British brave, of their renowned general being carried off mortally wounded and that at a most critical juncture.—*Ottawa Citizen*.

5. MR. BROWN OF CROWLAND.

Mr. Brown was born at the Township of Pelham, in this County, on the 12th December, A. D. 1804, and consequently, at the time of his death, was some months over 67 years of age. A farmer he has lived and died on his farm in the Township of Crowland, only a short distance from the place of his birth. He was one of the oldest magistrates in the County of Welland, and his name has been associated with most of the municipal and political matters of the County for the last half century. Respected for his firmness and integrity, though frequently called upon to adjudicate in matters of difference or irregularity among his neighbors, his decisions have never been appealed from. Moderate, circumspect and consistent in his political principles, he has always enjoyed an immunity from the consequences of exciting discussions incident to less temperate dispositions. His grandfather was a Lieutenant of Infantry under Wolfe at the storming of Quebec, in 1759, and subsequently emigrated from Ireland, with his family, and settled in the then Province of New Jersey. His father, Alexander Brown, was born in Ireland, and was only 5 years old at the time of emigration.—When the independence of the American Colonies was conceded by the mother country, the aged veteran and his son, like many more—and be it said to their honor—preferring the hardships of hewing out a new home in a vast wilderness to disloyalty to their King, once more emigrated; came to Canada, and consequently were of that ever to be respected class of men who gloried in the title of United Empire Loyalists. Mr. Brown was a member of the Established church, and throughout his life has been active and zealous in its support.—*Welland Telegraph*.

III. Educational Intelligence.

—The Convocation of McGill College took place on May the 1st. The Hon. James Ferrier presided. The proceedings were opened by prayer, offered up by the Rev. the Archdeacon Leach. The list of awards was then read over by the Dean of the Faculty of Arts, who presented those gentlemen who had passed the necessary examinations, and performed all the conditions required, to the Vice-Chancellor to receive the degree of Bachelor of Arts. Passed for the degree of B. A.:—In Honours—First Bank.—Ells, Robert, Cornwallis, N. S.; Hodge, D. W. R., Eaton, Q., Maxwell, John, Lancaster, O.; Naylor William H., Noyan, Q.; Wallace, Robert, Ont. Second Bank.—Crothers, William J., Phillinsburg, Q.; Ordinary, Class II—Allworth, John, Paris, Ont.; Christie, John H., Lachute, Q.; Class III—Torrance John Fraser, Montreal, Q.; Munro, Murdoch, Glengarry, Ont.; Whillans, Robert, Ottawa, Ont.; Fialay McLeod. Professor Johnson addressed the students on behalf of the Faculty, congratulating them that the establishment of a school of practical science had at length rolled away the reproach which had long rested upon the country in this respect. This school had now been established in the most effective way by being connected with the University, the prestige of which it enjoyed. The school contained three branches of applied science, civil engineering, mining engineering, and assaying combined with practical chemistry, but they hoped to cover a still larger field in future. Though this school existed at present as a part of the Faculty of Arts, the creation of the new degree virtually marked the beginning of a new Faculty which would in course of time rank with the other faculties of the University. The Prof. went on to speak of the value of words to show that the study of languages must also be considered a portion of practical education. He considered also that the exclusive study of physical science was

positively dangerous to the harmonious development of the mental faculties. In conclusion, the Professor alluded to the Darwinian theory, which he considered erroneous. The Vice-Chancellor announced that the Corporation had conferred the degree of LL.D. upon the Rev. Professor Cornish. The Rev. Chas. Chapman, M. A., of London University, and the Rev. R. McAlpine Thornton, of Toronto, were admitted to *ad eundem* degrees in the University. Principal Dawson also addressed the meeting for a short time. In doing so he reviewed briefly the work of the past session. In two meetings of Convocation they had given fifty-one degrees in the course, namely, thirty-five in law and medicine, and sixteen in arts. He referred to the establishment of the school of practical science. In connection with this they had to speak of endowments to the amount of \$8,000, annual contributions to the amount of \$1,450, and aid from the Quebec Legislature of \$1,000, the appointment of two additional instructing officers, and the attendance of nineteen students in the classes of civil engineering, mining engineering and assaying. The University had been fortunate in securing the services of Professor Armstrong and Dr. Harrington. He had been surprised at the readiness with which aid was given to the enterprise, and as an illustration, he had yesterday received a letter from one of their graduates containing a spontaneous offering on his part towards the provision of apparatus for the school. Connected with this new school was an endowment received that year, of which any University might be proud, that of the Logan chair of geology. The gift was timely and valuable, and doubly valuable from its association with the name and fame of the giver. Another benefaction of the past year deserved mention. That was the endowment by the Caledonian Society of Montreal of the Scott Exhibition. The Shakespeare medal and the Scott Exhibition afforded beautiful instances of the interest of a prosperous mercantile community in the cause of higher education. He alluded to the work which the University had been carrying on of the higher education of woman. The pupils of the late Miss Lyman had also placed under the care of the College the fund they had raised in commemoration of their lamented teacher. He had reason to believe that other gifts and endowments would shortly be announced, and the time for the organization of a regular college for women might not be so far distant as some supposed. One gentleman of this city had already devoted a handsome property to this subject, and another had authorized him to say that he would commence a subscription with \$5,000, so as to render the plans of the first-mentioned gentleman immediately operative. The Principal also alluded to the death of Professor Forbes, and the appointment of Professor Murray to fill his place. He also alluded to the approaching loss the University would have to sustain in the departure of Dr. Sterry Hunt. He alluded in a suitable manner to the death during the past year of two of their students in arts, both young men of much promise. On the whole the past year afforded reason for thankfulness and encouragement, and he would close with thanks to their friends for aid and countenance, and with expression of their acknowledgments to Professor Smith for the good words he had given them, and still more for his kindness in acceding to their request to deliver a course of lectures in the next session of the University. The meeting was then brought to a close.

—DEAF AND DUMB INSTITUTE, BELLEVILLE.—Dr. May kindly consented to give an entertainment for the benefit of the children this afternoon at three o'clock, in Ontario Hall. The pupils from the Deaf and Dumb Institute were present, together with large deputations from the Public Schools of the town. The entertainment proved to be of the most interesting nature possible, and gave unlimited pleasure to the juveniles. The Dr. is particularly happy in his illustrations, evincing a tact for instructing which has possibly been matured by his previous associations. Dr. Palmer deserves much credit for his unceasing interest in the success of these lectures, and the trouble and expense he puts himself to in order to accomplish that end.

[illegible]

east of the first two stars in the handle of the dipper—moved about 5° from N-S. Fog, 12th. Snow 3rd—6th, 13th, 15th, 21st, 25th, 29th. Rain 11th, 13th, 20th, 24th.

SIMCOE.—Snow 4th—6th. Rain 13th, 24th. Month pleasant, bracing, not very cold except 1st and 2nd.

WINDSOR.—On 16th, two parhelia. Lunar halo, 12th, 13th, 14th, 15th, 17th, 19th, 21st, 22nd. Wind storms, 13th, 14th, 21st, 24th, 28th. Fogs, 2nd, 8th, 9th, 12th. Snow 4th, 5th, 14th. Rain 13th, 20th, 24th.

V. Departmental Notices.

EXAMINATIONS OF GERMAN OR FRENCH TEACHERS.

The Council of Public Instruction has adopted the following minute:—

Ordered,—That the County Councils, within whose jurisdiction there are French or German settlements, be authorized to appoint one or more persons (who in their judgment may be competent) to examine candidates in the French or German language, at the semi-annual examinations.

NEW SCHOOL MANUAL.

In answer to various inquiries on the subject of a new School Manual we would say, that it is not thought desirable to publish a School Manual at present. Such a Manual should include in it the official regulations, but as they will not be revised until about the close of the present year (1872), or later, they cannot be embodied in the manual until then.

We would state, however, that the whole of the School Law and the general official regulations will be found in this Journal for May and June, 1871. Copies of these journals, when published, were sent by mail and addressed to each school corporation in Ontario. The supply is, however, now exhausted.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and consent to employ two masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

"ADEQUATE SCHOOL ACCOMMODATIONS."

In answer to numerous inquiries as to the law relating to school accommodation, we desire to state that the second section of the School Act of 1871 declares that:—

"Each school corporation (in a city, town, village or rural school section) shall provide adequate accommodations for all the children of school age (from five to sixteen years, resident) in their school division or municipality."

The regulations, which define what "adequate school accommodations" are, suggest a medium or minimum amount of

school accommodation to be provided, as compared with the law and regulations on the subject in other countries. Although the law, as quoted above, is *imperative*, yet inspectors will exercise a judicious discrimination in enforcing it.

SCHOOL PREMISES AND ACCOMMODATION.

We would request the attention of Inspectors to Note to a of Regulation No. 4 of their "Duties," in which they are directed to call the attention of Trustees to the condition of the School premises. In many School sections the School-house has been allowed to remain in the same state for fifteen or twenty years and longer, often on a bare open space, or on the road-side unenclosed, without a tree or shrub near by to shade it, or any provision being made by the Trustees for the convenience or health of the pupils, or even for their observance of the decencies of life. The Legislature has wisely decided that this state of things shall not continue, but that, as soon as possible, a remedy shall be applied, where necessary. A reasonable time should of course be allowed to Trustees in all cases to set things right; but in the meantime Inspectors will, we trust, not fail to urge upon Trustees the necessity of complying, as soon as possible, with the provisions of the law on this subject.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme.....	Large Sheets.	The ten sheets sent free of postage for 50 cents.	
2. The New Limit Table			
3. A Blank Time Table.. ..			
4. Duties of Pupils.....			
5. The Ten Commandments	Small Sheets.		
6. Library Regulations			
7. List of authorized Text Books.....			
8. Merit Cards and their uses.....			
9. Hints on constructing Time Tables.....			
10. Departmental Notices.....			

THE ACT OF 1871 AND SEPARATE SCHOOLS.

In reply to a question frequently asked, we desire to say that the new School Act and Regulations do *not* in any way affect the Separate Schools. It was not intended to affect them when the Act was passed; and it would be unjust to the supporters of these Schools thus to legislate for them indirectly, and without their knowledge. The Inspectors will, therefore, be particular not to apply the Act, or any of the new Regulations to Separate Schools.

SCHOOL HOUSE ARCHITECTURE.

In the *Journal of Education* for February, 1870, Trustees will find a variety of illustrations on School House Architecture, with letter-press descriptions. Extra copies of this journal will be sent free by post, on receipt of 12 cents. There has also been published a useful pamphlet on "The School House, its Architecture," etc., with numerous illustrations, which can also be sent free by post on receipt of 65 cents.

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APPORTIONMENT OF THE LEGISLATIVE SCHOOL GRANT, TO PUBLIC SCHOOLS IN ONTARIO, FOR 1872.

Circular to the Clerk of each County, City, Town and Village Municipality in the Province of Ontario.

SIR,—I have the honour to transmit herewith a certified copy of the apportionment for the current year, of the Legislative School Grant to each City, Town, Village, and Township in Ontario.

The basis of apportionment to the several Municipalities for this year is the population as enumerated in the census of 1871. The total amount available for apportionment is \$25,000 more

than last year, and in addition to the increased amount available on the basis of population, those Townships in which there are feeble schools and a sparse population have been specially considered in the apportionment.

Where Roman Catholic Separate Schools exist, the sum apportioned to the Municipality has been divided between the Public and Separate Schools therein, according to the average attendance of pupils at both classes of Schools during last year, as reported and certified by the Trustees.

The grants will be paid by the Hon. the Provincial Treasurer on the certificate of the Chief Superintendent. These certificates will be issued on or about 30th June, in favour of those Municipalities which have sent in duly audited school accounts and Inspectors' reports to this office.

I trust that the liberality of your Council will be increased, in proportion to the growing necessity and importance of providing for the sound and thorough education of all the youth of the land.

I am, Sir, your obedient servant,

E. RYERSON.

EDUCATION OFFICE,

Toronto, June, 1872.

APPORTIONMENT TO COUNTIES FOR 1872.

1. COUNTY OF GLENGARRY.	
Townships.	Apportionment.
Charlottenburgh	\$726 00
do for Separate Schools	\$53 00
Kenyon	609 00
Lancaster	523 00
do for Separate Schools	\$19 00
Lochiel	449 00
do for Separate Schools	\$145 00
	\$217 00 \$2307 00
Total for County,	\$2,524 00.
2. COUNTY OF STORMONT.	
Cornwall	\$624 00
Finch	336 00
Osnaburgh	712 00
Roxborough	413 00
	\$2085 00
3. COUNTY OF DUNDAS.	
Matilda	\$586 00
Mountain	401 00
Williamsburgh	581 00
Winchester	503 00
	\$2071 00

4. COUNTY OF PRESCOTT.	
Townships.	Apportionment.
Alfred	\$208 00
Caledonia	159 00
Hawkesbury, East	386 00
do for Separate Schools	\$181 00
do West	244 00
Longueuil	\$49 00
Plantagenet, North	176 00
do for Separate Schools	331 00
do South	\$38 00
	193 00
	\$268 00 \$1697 00
Total for County,	\$1,965 00.

5. COUNTY OF RUSSELL.	
Cambridge	\$36 00
Clarence	327 00
Cumberland	359 00
Russell	287 00
	\$1069 00

6. COUNTY OF CARLETON.	
Fitzroy	\$421 00
Gloucester	579 00
do for Separate Schools	\$9 00
Goulbourn, (including \$35 for Poor Schools)	433 00
Gower, North, (including \$20 for Poor Schools)	231

COUNTY OF CARLETON—Continued.	
Townships.	Apportionment.
Huntley, (including \$35 for Poor Schools)	361 90
March, (do \$35 do)	250 00
Marlborough, including \$35 for Poor Schools	302 00
do for Separate Schools	\$11 00
Nepean	547 00
do for Separate Schools	\$76 00
Osgoode, (including \$55 for Poor Schools)	515 00
do for Separate Schools	\$65 00
Torbolton, (including \$35 for Poor Schools)	127 00
	\$161 00 \$3866 00

Total for County, \$4,027 00.

7. COUNTY OF GRENVILLE.	
Augusta	\$635 00
Edwardsburgh	644 00
do for Separate School	\$22 00
Gower, South	126 00
Oxford on Rideau	482 00
do for Separate Schools	\$16 00
Wolford	314 00
	\$38 00 \$2201 00
Total for County, \$2,	00.

8. COUNTY OF LEEDS.		
Townships.	Apportionment.	
Bastard and Burgess, South.....	\$436 00	
Crosby, North.....	262 00	
do South.....	253 00	
Elizabethtown.....	661 00	
Elmsley, South.....	153 00	
Escott, Front.....	171 00	
Kitley.....	344 00	
do for Separate Schools.....	\$9 00	
Leeds and Lansdowne, Front.....	462 00	
do do Rear.....	290 00	
Yonge, Front.....	205 00	
do and Escott, Rear.....	204 00	
do for Separate Schools.....	\$16 00	
	\$25 00	\$3441 00
Total for County, \$3,466 00.		

9. COUNTY OF LANARK.		
Bathurst.....	\$396 00	
Beckwith, (including \$30 for Poor Schools).....	273 00	
Burgess, North, (including \$30 for Poor Schools).....	197 00	
Dalhousie.....	212 00	
do for Separate School.....	\$12 00	
Darling.....	99 00	
Drummond.....	303 00	
Elmsley, North.....	174 00	
Lanark.....	279 00	
Lavant, (including \$30 for Poor Schools).....	61 00	
Montague.....	392 00	
Pakenham.....	298 00	
Ramsay.....	396 00	
Sherbrooke, North, (including \$30 for Poor Schools).....	57 00	
do South, (including \$30 for Poor Schools).....	133 00	
	\$12 00	\$3270 00
Total for County, \$3,282 00.		

10. COUNTY OF RENFREW.		
Admaston.....	\$245 00	
Algoma, (including \$20 for Poor Schools).....	106 00	
Alie and Fraser, (including \$30 for Poor Schools).....	222 00	
Bagot and Blithfield.....	141 00	
Brougham.....	64 00	
Bromley.....	126 00	
do for Separate Schools.....	\$50 00	
Brudenell, Raglan, Radcliffe and Lynedoch, (including \$35 for Poor Schools).....	204 00	
Grafton, (including \$20 for Poor Schools).....	156 00	
do for Separate Schools.....	\$46 00	
Griffith, (including \$40 for Poor Schools).....	56 00	
Horton.....	156 00	
McNab.....	350 00	
Matawatchesan, (including \$25 for Poor Schools).....	60 00	
Pembroke.....	79 00	
do for Separate Schools.....	\$	
Petewawa, (including \$50 for Poor Schools).....	96 00	
Rolph and Wylie, Buchanan and McKay, (including \$20 for Poor Schools).....	76 00	
Ross, (including \$20 for Poor Schools).....	227 00	
Sebastopol.....	80 00	
Stafford, (including \$20 for Poor Schools).....	118 00	
Westmeath.....	324 00	
Wilberforce.....	240 00	
	\$96 00	\$3126 00
Total for County, 3,222 00.		

11. COUNTY OF FRONTENAC.		
Barrie, (including \$50 for Poor Schools).....	\$89 00	
Bedford.....	187 00	
do for Separate Schools.....	\$39 00	
Clarendon and Miller, (including \$50 for Poor Schools).....	100 00	
Hinchinbrooke.....	123 00	
Kennebec, (including \$30 for Poor Schools).....	129 00	
Kingston.....	472 00	
do for Separate School.....	\$32 00	
Loughboro', (including \$20 for Poor Schools).....	306 00	
Olden, (including \$30 for Poor Schools).....	99 00	
Oso, (do \$50 do).....	112 00	

COUNTY OF FRONTENAC—Continued.		
Townships.	Apportionment.	
Palmerston and Canoto, (including \$30 for Poor Schools).....	97 00	
Pittsburgh.....	507 00	
Portland, (including \$20 for Poor Schools).....	354 00	
Storrington, (do \$40 do).....	394 00	
Wolfe Island, (do \$30 do).....	306 00	
do for Separate Schools.....	\$60 00	
	\$131 00	\$3275 00
Total for County, \$3,406 00.		

12. COUNTY OF ADDINGTON.		
Amherst Island.....	\$146 00	
Anglesea and Kaladar, (including \$50 for Poor Schools).....	142 00	
Camden, East, (including \$15 for Poor Schools).....	705 00	
do for Separate School.....	\$22 00	
Denbigh, Abinger, Ashby and Effingham, (including \$65 for Poor Schools).....	105 00	
Ernestown.....	521 00	
Sheffield, (including \$20 for Poor Schools).....	294 00	
do for Separate School.....	\$48 00	
	\$70 00	\$1913 00
Total for County, \$1,983 00.		

13. COUNTY OF LENNOX.		
Adolphustown.....	\$93 00	
Fredericksburgh, North.....	212 00	
do South.....	184 00	
Richmond.....	422 00	
	\$911 00	

14. COUNTY OF PRINCE EDWARD.		
Ameliasburgh.....	\$406 00	
Athol.....	214 00	
Hallowell.....	437 00	
Hillier.....	274 00	
Marysburgh, South.....	263 00	
do North.....	221 00	
Sophiasburgh.....	332 00	
	\$2147 00	
15. COUNTY OF HASTINGS.		
Carlow and Mayo.....	\$36 00	
Elzevir and Grimsthorpe.....	173 00	
Faraday and Dungannon.....	55 00	
Hungerford.....	569 00	
Huntingdon.....	351 00	
McClure, Wicklow, Bangor, Herschel and Montegale.....	114 00	
Madoc.....	428 00	
Marmora and Lake.....	209 00	
Rawdon.....	454 00	
Sidney.....	647 00	
Thurlow.....	636 00	
Tudor, Wallaston, Limerick and Cashel.....	130 00	
Tyendinaga.....	825 00	
	\$4627 00	

16. COUNTY OF NORTHUMBERLAND.		
Alnwick.....	\$168 00	
Brighton.....	438 00	
do for Separate Schools.....	\$21 00	
Cramahe.....	471 00	
Haldimand.....	692 00	
do for Separate School.....	\$21 00	
Hamilton.....	704 00	
Monaghan, South.....	143 00	
Murray.....	447 00	
Percy.....	452 00	
do for Separate School.....	\$50 00	
Seymour.....	511 00	
do for Separate School.....	\$16 00	
	\$108 00	\$4026 00
Total for County, \$4,134 00.		

17. COUNTY OF DURHAM.		
Cartwright.....	\$309 00	
Cavan.....	586 00	
Clarke.....	705 00	
Darlington.....	730 00	
Hope.....	624 00	
Manvers.....	505 00	
	\$3,469 00	

18. COUNTY OF PETERBOROUGH.		
Townships.	Apportionment.	
Asphodel.....	\$	
do for Separate Schools.....	\$	
Belmont and Methuen, (including \$20 for Poor Schools).....	214 00	
Burleigh, Austruther, Monmouth, Cardiff and Chandos, (including \$100 for Poor Schools).....	189 00	
Douro.....	329 00	
Dummer.....	240 00	
Dysart, Dudley, Harcourt, Guilford, Harburn and Burton, (including \$100 for Poor Schools).....	184 00	
Ennismore.....	136 00	
Galway and Cavendish, (including \$55 for Poor Schools).....	119 00	
Harvey.....	82 00	
Minden, (including \$35 for Poor Schools).....	133 00	
Monaghan, North.....	180 00	
Otonabee.....		
do for Separate Schools.....	\$	
Smith.....	420 00	
Snowdon and Glamorgan, (including \$20 for Poor Schools).....	69 00	
Stanhope and Sherborne, (including \$20 for Poor Schools).....	38 00	
	\$	\$
Total for County, 3,243.		

19. COUNTY OF VICTORIA.		
Anson, Hindon and Lutterworth, (including \$100 for Poor Schools).....	\$163 00	
Bexley, (do \$50 do).....	110 00	
Carden and Dalton, (including \$20 for Poor Schools).....	146 00	
Draper, Ryde and Oakley, (including \$60 for Poor Schools).....	126 00	
Eldon.....	375 00	
Emily, (including \$20 for Poor Schools).....	486 00	
Fenelon.....	486 00	
Laxton, Digby and Longford.....	150 00	
Macaulay.....	106 00	
Mariposa, (including \$30 for Poor Schools).....	689 00	
Ops, (including \$20 for Poor Schools).....	432 00	
Somerville.....	132 00	
Stephenson, (including \$55 for Poor Schools).....	117 00	
Verulam.....	331 00	
	\$3849 00	

20. COUNTY OF ONTARIO.		
Brock.....	\$637 00	
Mara and Rama.....	417 00	
do for Separate School.....	\$25 00	
Pickering.....	907 00	
Reach.....	838 00	
Scott.....	341 00	
Seugog Island.....	108 00	
Thorah.....	242 00	
Uxbridge.....	586 00	
Whitby, East.....	420 00	
do West.....	396 00	
	\$25 00	\$4892 00
Total for County, \$4,917 00.		

21. COUNTY OF YORK.		
Etobicoke.....	\$355 00	
do for Separate School.....	\$12 00	
Georgina.....	244 00	
Gwillimbury, East.....	484 00	
do North.....	283 00	
King.....	920 00	
Markham.....	1003 00	
Scarborough.....	568 00	
Vaughan.....	942 00	
Whitchurch.....	617 00	
York.....	1044 00	
do for Separate Schools.....	\$187 00	
	\$199 00	\$6460 00
Total for County, \$6,659 00.		

22. COUNTY OF PEEL.		
Albion.....	\$597 00	
Caledon.....	589 00	
Chingacousy.....	753 00	
Gore of Toronto.....	166 00	
do for Separate School.....	\$26 00	
Toronto.....	735 00	
	\$26 00	\$2840 00
Total for County, \$2,866 00.		

23. COUNTY OF SIMCOE.		
Townships.	Apportionment.	
Adala	\$354 00	
Ema, (including \$20 for Poor Schools)	539 00	
Flos	216 00	
Gwillimbury, West	373 00	
Innisfil	661 00	
do for Separate School	\$13 00	
Medonte, (including \$10 for Poor Schools)	323 00	
Mono, (including \$10 for Poor Schools)	510 00	
Monck, (do \$100 do)	166 00	
Morrison, (do \$100 do)	174 00	
Muskoka, (do \$100 do)	159 00	
Mulmur	431 00	
Nottawasaga	824 00	
Orillia and Matchedash	189 00	
do for Separate School	\$44	
Oro	537 00	
Sunnidale	245 00	
Tay	200 00	
Tiny	395 00	
Tecumseth	582 00	
Tomsonio	193 00	
Vespra	235 00	
do for Separate Schools	\$20	
	\$77 00	\$7306 00
Total for County, \$7,383 00.		

24. COUNTY OF HALTON.		
Requesing	\$755 00	
Nassagaweya	366 00	
Nelson	568 00	
Trafalgar	618 00	
	\$2307 00	

25. COUNTY OF WENTWORTH.		
Ancaster	\$616 00	
Barton	352 00	
Beverley	714 00	
Binbrooke	239 00	
Flamborough, East	461 00	
do for Separate Schools	\$18 00	
do West	394 00	
do for Separate School	\$26 00	
Glanford	251 00	
Salfleet	342 00	
	\$44 00	\$3369 00
Total for County, \$3,413 00.		

26. COUNTY OF BRANT.		
Brantford	\$843 00	
Burford	682 00	
Dumfries, South	427 00	
Oakland	136 00	
Onondaga	237 00	
	\$2325 00	

27. COUNTY OF LINCOLN.		
Caistor	\$266 00	
Clinton	342 00	
Gainsborough	372 00	
Grantham	442 00	
do for Separate School	\$41 00	
Grimsby	384 00	
Louth	233 00	
Niagara	257 00	
	\$41 00	\$2296 00
Total for County, 2,337 00.		

28. COUNTY OF WELLAND.		
Bertie	\$361 00	
Crowland	162 00	
Humberstone	304 00	
Pelham	309 00	
Stamf rd	347 00	
do for Separate School	\$22 00	
Thorold	308 00	
Wainfleet	329 00	
Willoughby	153 00	
	\$22 00	\$2273 00
Total for County, \$2,295 00.		

29. COUNTY OF HALDIMAND.		
Cambridge	\$148 00	
Cayuga, North	247 00	
do South	120 00	
Dunn	129 00	
Moulton and Sherbrooke	258 00	
Onoda	369 00	
do for Separate School	\$23 00	

COUNTY OF HALDIMAND—Continued		
Townships.	Apportionment.	
Rainham	254 00	
Seneca	404 00	
Walpole	661 00	
do for Separate School	\$13 00	
	\$36 00	\$2590 00
Total for County, \$2,626 00.		

30. COUNTY OF NORFOLK.		
Charlottesville	\$504 00	
Houghton	261 00	
Middleton	401 00	
Townsend	673 00	
Walsingham	651 00	
Windham	567 00	
do for Separate Schools	\$23 00	
Woodhouse	475 00	
	\$23 00	\$3532 00
Total for County, \$3,555 00.		

31. COUNTY OF OXFORD.		
Blandford	\$247 00	
Blenheim	787 00	
Dereham	718 00	
Nissouri, East	451 00	
Norwich, North	409 00	
do South	397 00	
Oxford, North	228 00	
do East	321 00	
do West	345 00	
Zorra, East	568 00	
do West	418 00	
	\$4889 00	

32. COUNTY OF WATERLOO.		
Dumfries, North	\$486 00	
Waterloo	964 00	
Wellesley	624 00	
do for Separate Schools	\$78 00	
Wilmot	671 00	
do for Separate Schools	\$44 00	
Woolwich	685 00	
	\$122 00	\$3430 00
Total for County, \$3,552 00.		

33. COUNTY OF WELLINGTON.		
Amaranth	\$239 00	
Arthur	331 00	
do for Separate Schools	\$110 00	
Eramosa	462 00	
Erin	655 00	
Garafraxa, East	317 00	
do West	384 00	
Guelph	363 00	
Luther	218 00	
Maryborough	543 00	
Minto	598 00	
Nichol	318 00	
do for Separate School	\$19 00	
Peel	599 00	
do for Separate School	\$108 00	
Pikington	244 00	
do for Separate School	\$40 00	
Puslinch	556 00	
	\$277 00	\$5827 00
Total for County, \$6,104 00.		

34. COUNTY OF GREY.		
Artemesia, (including \$20 for Poor School)	\$440 00	
do for Separate School	\$9 00	
Bentick, (including \$30 for Poor Schools)	651 00	
Collingwood	440 00	
Derby, (including \$30 for Poor Schools)	269 00	
Egremont	486 00	
Euphrasia	357 00	
Glenelg, (including \$40 for Poor Schools)	476 00	
do for Separate School	\$63 00	
Holland, (including \$25 for Poor Schools)	395 00	
do for Separate School	\$30 00	
Keppel and Brooke, (including \$50 for Poor Schools)	317 00	
Melancthon, (including \$20 for Poor Schools)	271 00	
Normanby, (including \$40 for Poor Schools)	698 00	
do for Separate Schools	\$26 00	
Osprey, (including \$30 for Poor Schools)	403 00	
Proton	217 00	
do for Separate School	\$52 00	

COUNTY OF GREY—Continued		
Townships.	Apportionment.	
Sarawak, (including \$65 for Poor Schools)	149 00	
St. Vincent	612 00	
Sullivan	382 00	
do for Separate School	\$6 00	
Sydenham	455 00	
do for Separate School	\$38 00	
	\$224 00	\$7018 00
Total for County, \$7,242 00.		

35. COUNTY OF PERTH.		
Blanchard	\$490 00	
Downie	410 00	
do for Separate School	\$50 00	
Easthope, North	369 00	
do South	280 00	
Ellice	337 00	
do for Separate School	\$18 00	
Elma	445 00	
Fullarton	357 00	
Hibbert	420 00	
Logan	393 00	
Mornington	446 00	
do for Separate School	\$22 00	
Wallace	440 00	
	\$90 00	\$4377 00
Total for County, \$4,467 00.		

36. COUNTY OF HURON.		
Ashfield	\$479 00	
Colborne	299 00	
Goderich	445 00	
Grey	474 00	
Hay	479 00	
Howick	666 00	
Hullet	423 00	
do for Separate School	\$29	
McKillop	468 00	
Morris	486 00	
Stanley	468 00	
Stephen	476 00	
do for Separate School	\$59 00	
Tuckersmith	455 00	
Turnberry	394 00	
Usborne	471 00	
Wawanosh, East	326 00	
do West	309 00	
do for Separate School	\$29 00	
	\$117 00	\$7118 00
Total for County, \$7,235 00.		

37. COUNTY OF BRUCE.		
Albemarle and Eastnor, (including \$120 for Poor Schools)	\$203 00	
Amabel	222 00	
Arran, (including \$50 for Poor Schools)	515 00	
Brant	737 00	
Bruce	463 00	
Carrick, (including \$30 for Poor Schools)		
do for Separate School	\$	
Culross, (including \$30 for Poor Schools)	502 00	
Elderslie, (including \$10 for Poor Schools)	465 00	
Greenock, (including \$20 for Poor Schools)	387 00	
Huron	502 00	
Kincardine, (including \$20 for Poor Schools)	524 00	
Kinloss	422 00	
Saugeen, (including \$20 for Poor Schools)	337 00	
	\$	\$
Total for County, \$5,925 00.		

38. COUNTY OF MIDDLESEX.		
Adelaide	\$359 00	
Biddulph	371 00	
do for Separate School	\$30 00	
Caradoc	623 00	
Delaware	310 00	
Dorchester, North	506 00	
Ekfrid	393 00	
Lobo	427 00	
London	1352 00	
McGillivray	561 00	

COUNTY OF MIDDLESEX—Continued.		
Townships.	Apportionment.	
do for Separate School...	\$12 00	
Metcalfe.....	301 00	
Moss.....	393 00	
Nissouri, West.....	438 00	
Westminster.....	761 00	
do for Separate School...	\$24 00	
Williams, East.....	351 00	
do West.....	211 00	
do for Separate School...	\$51 00	
	\$117 00	\$7,357 00
Total for County, \$7,474 00.		

39. COUNTY OF ELGIN.		
Aldborough.....	\$431 00	
Bayham.....	602 00	
Dorchester, South.....	255 00	
Dunwich.....	459 00	
Malahide.....	683 00	
Southwold.....	684 00	
Yarmouth.....	684 00	
	\$3798 00	

40. COUNTY OF KENT.		
Camden.....	\$504 00	
Chatham.....	619 00	

APPORTIONMENT TO CITIES, TOWNS AND VILLAGES FOR 1872.

CITIES.	Public Schools.	R. C. Sep'rate Schools.	Total.
	\$ cts.	\$ cts.	\$ cts.
Hamilton.....	2594 00	692 00	3286 00
Kingston.....	1103 00	423 00	1526 00
London.....	1707 00	240 00	1947 00
Ottawa.....	1245 00	1405 00	2650 00
Toronto.....	4682 00	2217 00	6899 00
	11331 00	4977 00	16308 00
TOWNS.	\$ cts.	\$ cts.	\$ cts.
Amherstburgh.....	114 00	124 00	238 00
Barrie.....	282 00	136 00	418 00
Bellefleur.....	690 00	209 00	899 00
Berlin.....	300 00	37 00	337 00
Bothwell.....	122 00		122 00
Bowmanville.....	373 00		373 00
Brantford.....	862 00	135 00	997 00
Brockville.....	451 00	177 00	628 00
Chatham.....	628 00	94 00	722 00
Clifton.....	122 00	76 00	198 00
Cobourg.....	447 00	99 00	546 00
Collingwood.....	348 00		348 00
Cornwall.....	250 00		250 00
Dundas.....	260 00	126 00	386 00
*Durham.....			
Galt.....	471 00		471 00
Goderich.....	486 00		486 00
Guelph.....	657 00	189 00	846 00
Ingersoll.....	412 00	83 00	495 00
Lindsay.....	254 00	244 00	498 00
Milton.....	110 00		110 00
Napanee.....	365 00		365 00
Niagara.....	135 00	62 00	197 00
Oakville.....	137 00	70 00	207 00
Owen Sound.....	414 00		414 00
Paris.....	265 00	60 00	325 00
Perth.....	227 00	82 00	309 00
Peterborough.....	314 00	253 00	567 00
Pictou.....	247 00	44 00	291 00
Port Hope.....	629 00		629 00
Prescott.....	203 00	119 00	322 00
Sandwich.....	143 00		143 00
Sarnia.....	299 00	61 00	360 00
St. Catharines.....	589 00	378 00	967 00
St. Mary's.....	323 00	61 00	384 00
St. Thomas.....	270 00		270 00
Simcoe.....	228 00		228 00
Stratford.....	417 00	113 00	530 00
Strathroy.....	397 00		397 00
*Tilsonburgh.....			
*Walkerton.....			
Whitby.....	289 00	49 00	338 00
Windsor.....	523 00		523 00
Woodstock.....	490 00		490 00
	14543 00	3081 00	17624 00

* Included in County.

COUNTY OF KENT—Continued.		
Townships.	Apportionment.	
Dover.....	408 00	
Harwich.....	711 00	
do for Separate School...	\$24 00	
Howard.....	545 00	
do for Separate School...	\$10 00	
Orford.....	383 00	
Raleigh.....	409 00	
do for Separate School...	\$93 00	
Romney.....	87 00	
Tilbury, East.....	227 00	
Zone.....	133 00	
	\$127 00	\$4026 00
Total for County, \$4,153 00.		

41. COUNTY OF LAMBTON.		
Bosanquet.....	\$544 00	
Brooke.....	312 00	
Dawn.....	137 00	
Enniskillen.....	188 00	
Euphemia.....	294 00	
Moore.....	465 00	
do for Separate School.....	\$27 00	
Plympton.....	647 00	
Sarnia.....	423 00	
Sombra.....	352 00	

VILLAGES.	\$ cts.	\$ cts.	\$ cts.
Almonte.....	256 00		256 00
Arnprior.....	211 00		211 00
Arthur.....	97 00		97 00
Ashburnham.....	147 00		147 00
Aurora.....	139 00		139 00
*Aylmer.....			
Bath.....	74 00		74 00
Bradford.....	139 00		139 00
Brampton.....	257 00		257 00
Brighton.....	167 00		167 00
Caledonia.....	153 00		153 00
Carleton Place.....	146 00		146 00
Cayuga.....	99 00		99 00
Chippawa.....	113 00		113 00
Clinton.....	248 00		248 00
Colborne.....	101 00		101 00
*Dresden.....			
Dunnville.....	179 00		179 00
Elora.....	156 00	28 00	184 00
Embro.....	59 00		59 00
Fergus.....	187 00	18 00	205 00
Fort Erie.....	103 00		103 00
Gananoque.....	248 00		248 00
Garden Island.....	94 00		94 00
Georgetown.....	158 00		158 00
Hawkesbury.....	206 00		206 00
Hespeler.....	98 00		98 00
Holland Landing.....	80 00		80 00
Iroquois.....	96 00		96 00
Kemptville.....	107 00		107 00
Kincardine.....	235 00		235 00
Lanark.....	91 00		91 00
Listowel.....	120 00		120 00
Lucan.....	115 00		115 00
Merrickville.....	114 00		114 00
Millpoint.....	106 00		106 00
Mitchell.....	222 00		222 00
Morrisburgh.....	142 00		142 00
Mount Forest.....	160 00	9 00	169 00
Newburgh.....	102 00		102 00
Newcastle.....	136 00		136 00
New Edinburgh.....	73 00		73 00
New Hamburg.....	123 00		123 00
Newmarket.....	175 00	41 00	216 00
Oil Springs.....	68 00		68 00
Orangeville.....	179 00		179 00
Orillia.....	163 00		163 00
Oshawa.....	275 00	117 00	392 00
Parkhill.....	159 00		159 00
Pembroke.....	185 00		185 00
Petrolia.....	326 00		326 00
Portsmouth.....	143 00	66 00	209 00
Port Colborne.....	75 00	47 00	122 00
Port Dalhousie.....	133 00		133 00
Preston.....	147 00	26 00	173 00
Renfrew.....	106 00		106 00
Richmond.....	422 00		422 00
Seaforth.....	168 00		168 00
Smith's Falls.....	102 00	39 00	141 00
Southampton.....	106 00		106 00
Stirling.....	96 00		96 00
Streetsville.....	76 00		76 00
Thorold.....	149 00	52 00	201 00
Trenton.....	137 00	84 00	221 00
Vienna.....	72 00		72 00
Wardsville.....	70 00		70 00
Waterloo.....	196 00		196 00
Welland.....	137 00		137 00
Wellington.....	64 00		64 00
Yorkville.....	270 00		270 00
	10056 00	527 00	10583 00

COUNTY OF LAMBTON—Continued.		
Townships.	Apportionment.	
Sombra, for Separate School.....	\$56 00	
Warwick.....	575 00	
Total for County, \$4,030 00.	\$93 00	\$3937 00
42. COUNTY OF ESSEX.		
Anderdon.....	\$156 00	
do for Separate School.....	\$77 00	
Colchester.....	359 00	
Gosfield.....	368 00	
Maldstone.....	253 00	
Malden.....	193 00	
Mersea.....	400 00	
Rochester.....	264 00	
Sandwich, East.....	461 00	
do West.....	274 00	
Tilbury, West.....	294 00	
	\$77 00	\$3022 00
Total for County, \$3,099 00.		

Nipissing.....	\$220 00
Muskoka.....	232 00
Parry Sound.....	187 00
Manitowlin.....	247 00
Algonia.....	616 00

SUMMARY OF APPORTIONMENT TO COUNTIES, 1872.

COUNTIES.	Public Schools.	R. C. Sep'rate Schools.	Total.
	\$ cts.	\$ cts.	\$ cts.
1. Glengarry.....	2307 00	217 00	2524 00
2. Stormont.....	2085 00		2085 00
3. Dundas.....	2071 00		2071 00
4. Prescott.....	1697 00	268 00	1965 00
5. Russell.....	1069 00		1069 00
6. Carleton.....	3836 00	161 00	4027 00
7. Grenville.....	2201 00	38 00	2239 00
8. Leeds.....	3441 00	25 00	3466 00
9. Lanark.....	3270 00	12 00	3282 00
10. Renfrew.....	3126 00	96 00	3222 00
11. Frontenac.....	3275 00	131 00	3406 00
12. Addington.....	1913 00	70 00	1983 00
13. Lennox.....	911 00		911 00
14. Pr. Edward.....	2147 00		2147 00
15. Hastings.....	4627 00		4627 00
16. Northumber-land.....	4026 00	108 00	4134 00
17. Durham.....	3459 00		3459 00
18. Peterbor'gh.....			3243 00
19. Victoria.....	3849 00		3849 00
20. Ontario.....	4892 00	26 00	4917 00
21. York.....	6460 00	199 00	6659 00
22. Peel.....	2840 00	26 00	2866 00
23. Simcoe.....	7306 00	77 00	7383 00
24. Halton.....	2307 00		2307 00
25. Wentworth.....	3369 00	44 00	3413 00
26. Brant.....	2325 00		2325 00
27. Lincoln.....	2296 00	41 00	2337 00
28. Welland.....	2273 00	22 00	2295 00
29. Haldimand.....	2590 00	36 00	2626 00
30. Norfolk.....	3532 00	23 00	3555 00
31. Oxford.....	4889 00		4889 00
32. Waterloo.....	3430 00	122 00	3552 00
33. Wellington.....	5827 00	277 00	6104 00
34. Grey.....	7018 00	224 00	7242 00
35. Perth.....	4377 00	90 00	4467 00
36. Huron.....	7118 00	117 00	7235 00
37. Bruce.....			5925 00
38. Middlesex.....	7357 00	117 00	7474 00
39. Elgin.....	3798 00		3798 00
40. Kent.....	4026 00	127 00	4153 00
41. Lambton.....	3937 00	93 00	4030 00
42. Essex.....	3022 00	77 00	3099 00
Dist. of Muskoka.....	232 00		232 00
Nipissing.....	220 00		220 00
Parry Sound.....	187 00		187 00
Manitowlin.....	247 00		247 00
Algonia.....	616 00		616 00
			157862 00
GRAND TOTALS.			
Counties and l' tricts, (including \$2950 for Poor Sch.ols.)			157862 00
Cities.....	11331 00	4977 00	16308 00
Towns.....	14543 00	3081 00	17624 00
Villages.....	10056 00	527 00	10583 00
			202377 00

MEMBERS:—*Pembroke*—R. G. Scott, Esq., M.A.; *Cornwall*—James Smith, Esq., A.M.; *Barrie*—H. B. Spotton, Esq., M.A.; *Peterborough*—J. B. Dixon, Esq., M.A.; *Bellenile*—A. Burdon, Esq.; *Goderich*—Hugh J. Strang, Esq., B.A.; *Stratford*—C. J. Macgregor, Esq., M.A.; *Hamilton*—J. M. Buchan, Esq., M.A.; *Simcoe*—Dion C. Sullivan, Esq., LL.B.; *Windsor*—J. Johnston, Esq., B.A.

Approximation. ^dOn Lake Simcoe. ^eNear Lake Ontario on Bay of Quinte. ^fOn St. Lawrence. ^gOn Lake Huron. ^hOn Lake Ontario. ⁱOn the Ottawa River. ^jClose to Lake Erie. ^mOn the Detroit River. ⁿInland Towns. ^pNo observation on 5th and 6th. ^qImperfect observation on 4th.

Approximation. d On Lake Simcoe. e Near Lake Ontario on Bay of Quinte.
* No observation on 5th and 6th, imperfect observation on 4th.

Where the clouds have contrary motions, the higher current is entered here.
Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

PEMBROKE.—Snow 2nd, 9th, 10th, 14th, 15th, 19th, 25th.
 CORNWALL.—Solar halo 2nd, 13th, 28th. Lunar halo 18th, 21st.
 Wind storms, 6th, 19th, 31st. Fog, 2nd, 13th, 25th. Snow, 4th, 6th,
 10th, 11th, 14th, 17th, 19, 24th, 26th, 31st. Rain 27th.
 BARRIE.—Wind-storms 4th, 19th, 20th. Snow, 3rd, 4th, 9th, 13th,
 15th, 17th, 21st, 23rd, 25th, 28th. Month unusually cold and rough.
 PATERBOROUGH.—Wind-storms 6th, 9th, 19th, 20th. Snow, 9th, 10th,
 13th, 14th, 17th—20th, 22nd, 23rd, 25th, 28th. Rain 10th. The coldest
 day so far this year was 5th March : temperature—19°. 2. The month
 colder than January or February.
 BELLEVILLE.—Wind-storm, 19th. Snow, 4th, 9th, 13th, 14th, 23rd,
 26th, 28th. Observer calls attention to the low temperature on 5th.
 Very high wind Sunday 31st.
 GODERICH.—Snow, 3rd, 16th—19th, 23rd, 25th, 28th, 29th, 31st. Rain,
 9th. First snow seen 11th.
 STRATFORD.—Wind-storms, 4th, 6th, 19th, 20th, 23rd, 31st. Snow,
 3rd, 4th, 9th, 13th, 14th, 16th, 18th, 23rd, 25th, 28th, 30th, 31st. Rain,
 31st. Crows seen on 11th. Robins 28th. Difference of mean monthly
 temperature from average of 11 years—9°-90. ¹⁸⁶²
 HAMILTON.—Wind-storm, 6th. Snow, 2nd, 3rd, 8th, 9th, 15th—14th,
 17th—26th, 28th—31st. Rain, 9th, 25th, 28th, 31st. On 22nd
 large corona round moon, followed during night by a light fall of snow.
 24th crows seen : *remonica officinalis* found green. 27th, robins heard.—

SMOKE.—Hail or sleet on nights of 8th and 30th. Windstorms, 4th, 13th, 15th, 19th—21st, 23rd, 25th, 30th, 31st. Fog 9th. Snow, 14th, 18th, 23rd, 25th, 30th. Rain, 9th, 10th, 30th, 31st. Much stormy weather and many ship-wrecks. On night of 30th very high wind East by North, attended by storms of snow, sleet and rain in succession. Telegraph poles thrown down. Intense cold on 2nd, 3rd, 4th, 5th, 6th, 20th.

WINDS.—On 17th, hale. Wind-storms, 8th, 9th, 18th—21st, 23rd, 30th, 31st. Snow, 3rd, 4th, 8th, 15th, 18th, 22nd, 23rd, 29th, 30th. Rain, 18th, 25th, 30th, 31st.

III. Correspondence with the "Journal."

INTEREST THAT IS INTERESTING.

To the Editor of the Journal of Education.

SIR,—Mr. McLellan's note on one of the problems in the recent examination papers induces me to make a few remarks on a similar one which I have since noticed, on page 203 of Sangster's Algebra. Inferring from the answer, the text-book reasons that as \$1 is due the last day, \$2 the preceding one and so on, the whole principal is equal \$1 for $(1+2+3+\dots+60)$ days, or \$1 for 1830 days. Interest on \$1 for one day = $\frac{1}{1830}$ and for 1830 days = $\frac{1830}{1830}$; this divided by number of payments gives $\frac{1}{1830}$; \therefore daily payment = $1 + \frac{1}{1830} = \$1.00 \frac{1}{1830}$; or, in other words, it is assumed that \$1 plus interest on remaining debt is paid each day and that the sum of the payments divided by their number is the equated daily payment, = $\left\{ 2(1 + \frac{1}{1830}) + (60-1) \times \frac{1}{1830} \right\} \frac{1}{2} \div 60 = \$1.00 \frac{1}{1830}$. This evidently is unfair to the payer as he loses interest by part of his payment being made in advance. The following seems a better solution. Let a = daily payment.

Then 1st day's interest = $\frac{1}{1830}(60)$
 2nd " " = $\frac{1}{1830}(60-a)$
 3rd " " = $\frac{1}{1830}(60-2a)$
 4th " " = $\frac{1}{1830}(60-3a)$ &c.

This being a series whose first term, common difference, and number of terms respectively are $\frac{1}{1830}$, $-\frac{a}{1830}$ and 60, we have

$$60a = 60 + \left\{ 2 \left(\frac{1}{1830} \right) + 59 \times -\frac{a}{1830} \right\} \frac{60}{2} \text{ whence } a = \$1.00 \frac{1}{1830}$$

Solving the \$5000 farm problem by the text-book principle, we get the annual payment = \$1437.50, while by the latter method above it is \$1422.01 $\frac{1}{1830}$, making, on the whole, a difference of very nearly \$62.

Taking compound interest which only is fair we reason thus. Let a = daily payment as before, and r = daily interest on \$1. Then first day's principal and interest = $60(1+r)$; deducting daily payment $60(1+r)-a$ is left; this at interest for the second day amounts to $\{ 60(1+r)-a \} (1+r)$.

Similarly, third day's amount = $\{ \{ 60(1+r)-a \} (1+r)-a \} (1+r)$
 " fourth " $\{ \{ \{ 60(1+r)-a \} (1+r)-a \} (1+r)-a \} (1+r)$

Deducting a and removing brackets we find the principal at the end of the fourth day = $60(1+r)^4 - a(1+r)^3 - a(1+r)^2 - a(1+r) - a$

In like manner, we find, at the end of the n th day the remaining principal = $60(1+r)^n - a(1+r)^{n-1} - a(1+r)^{n-2} - \dots - a$
 $= 60(1+r)^n - a \{ (1+r)^{n-1} + (1+r)^{n-2} + (1+r)^{n-3} + \dots + 1 \}$

$= 60(1+r)^n - a \left\{ \frac{(1+r)^n - 1}{r} \right\}$ But when the debt is paid, the above expression = 0; therefore

$$60(1+r)^n = a \left\{ \frac{(1+r)^n - 1}{r} \right\}$$

whence $a = \frac{60r(1+r)^n}{(1+r)^n - 1}$ =, in the case before, to

$$\frac{60 \times \frac{1}{1830} \times \left(\frac{1001}{1000} \right)^{60}}{\left(\frac{1001}{1000} \right)^{60} - 1} = \frac{\$01 \times 1.010138}{.010138}$$

Applying this to the examination question, we get $a = \frac{5000 \times .06 \times 1.06^4}{1.06^4 - 1} = \1442.98

The following somewhat similar question was discussed by the legal and commercial men of a town in Western Canada, but entirely

failing to agree they submitted it to the writer for his decision. It arose from a protested case in money-lending.

A lends B \$1000 payable in ten annual instalments of \$160 each. What rate per cent. *simple interest* does B pay for his money?

A majority thought his rate to be $10\frac{1}{2}\%$ which is in accordance with the text-book principle, but from the following it will be seen that he paid the usurious per centage of $21\frac{1}{2}\%$

Interest for first year = 1000r.
 " for second " = $(1000-160)r$.
 " for third " = $(1000-2 \times 160)r$.
 " for fourth " = $(1000-3 \times 160)r$ &c.

From this series we get the total interest $\$600 = 2800r$ where r = yearly interest on one dollar. Hence rate per cent. = $600 \div 28 = 21\frac{1}{2}\%$

I am pleased to note, for reasons too many to mention here, the prominence given to commercial arithmetic by the central committee of examiners.

I remain, Sir,

Your obedient servant,

JOHN CAMERON.

COLLEGIATE INSTITUTE, }
 Cobourg, March 25th, 1872. }

To the Editor of the Journal of Education.

SIR,—In reading Huxley's "Lay Sermons," I have been struck with his assertion that the Christian Clergy are either in general ignorance of the truths arrived at of late years by science, or that they know and fear to communicate to those under their teaching doctrines which they think incompatible with faith in the Christian revolution.

There is no harm in profiting by this opportunity to

"See ourselves as others see us,"

Nor can we be wrong in availing ourselves of a hint from a professed opponent of our Faith.

And there is too much truth in the assertion that the Clergy have not headed the present movement of thought in the direction of physical science. The present generation of University men have been too often imperfectly instructed in chemistry, biology and geology. They are ignorant, and on the principle of "*unum ignotum pro terribili*," they amathematise such theories as that of Darwin, and patch up pseudo-geological systems (like that of poor Hugh Miller) ignoring the fact that the opinion of all best qualified to judge on scientific questions is against them. It is the old Inquisition spirit. Men of science reply with this anathemic of "bigotry," they argue that because many ignorant or partially instructed christian teachers dread science, that therefore science is formidable to christianity! And as they have the public press on their side, and as the scientific anathema is considerably shriller than that of the clergy, the latter are very generally condemned as ignorant bigots, and the study of the laws of chemistry and of natural history is supposed to lead in some unexplained way to scepticism! Holding that spiritual revelation and scientific research more on entirely different plans and therefore can never by any possibility come in conflict. I desire to prove to the study of science among them committed to any spiritual care. Much that Mr. Huxley puts forward with regard to the practical as well as educational value of popularized scientific teaching, seems to me well worth the attention both of the christian teacher and of those engaged in promoting the cause of education in this country.

Admirable as is our Canadian School System, I find few of our young men engaged as Public School teachers have any knowledge of the laws of chemistry, of geology, or physiology, (I speak of them who have not been pupils at the Normal School.)

The object of this letter is to submit to government whether it might not be well to encourage competent persons to deliver a series of lectures on these subjects in local townships. Much might in this way be done to interest the young men in knowing somewhat of the world in which they live. Witness the "Manchester Science Lectures" and to my own knowledge those delivered in Dublin by the Professor of the Industrial Institute and of the Dublin Society.

It is with this object that I propose giving a series of lectures in the Township of Huntley, having no fear whatever that anything worth being called Christian Faith can ever be endangered by any possible discovery as to the work and laws of nature's God.

I am, sir, with much respect,

Yours,

CHARLES PELHAM MULVANY, M. A.,
 Incumbent of Huntley.

To the Editor of the JOURNAL OF EDUCATION.

HUNTLEY, ONT. May 6, 1872.

DEAR SIR,—I am desirous of bringing under your notice a plan which I am adopting, in Huntley, of delivering a series of short and popular lectures on science, especially intended for the young men engaged as school-teachers, and for the farmer's sons, with most of whom education means only the time passed at school.

I beg to represent to you the great benefit to be derived from such a course, if followed out by the clergy (when competent) and I should like to advocate it in the columns of the JOURNAL OF EDUCATION. The enclosed may perhaps be inserted.

I should also wish to know whether the Government will for this purpose supply me with what I very much need—a set of electric apparatus sufficient to illustrate a popular lecture with some experiments shewing the ordinary phenomena.

The township of Huntley, though largely populated by my own congregation, is at present poor, having suffered from the great fire of 1870; therefore, I beg to suggest that a little help from Government in a matter so much concerning the cause of education would not be misapplied. A loan for a short time of the apparatus is all I would ask.

I have the honour to be, Yours faithfully,

Dear Sir,

CHARLES PELHAM MULVANY, M. A.,

IV. Papers on Practical Education.

1. TO TEACHERSWITHOUT "EXPERIENCE" AND WITH OUT "TRAINING."

We are now to consider the means by which an earnest and conscientious young teacher, who is debarred from the advantages of normal training, may nevertheless rise to distinction in his profession.

Visit and observe. Ascertain by inquiry which is the best school within your reach, and spend a day there. The teacher may or may not be a better teacher than you are; in either case your day will be well spent. If you are so fortunate as to have selected a good school, you will see some things worthy of imitation; but if you have got into an inferior school, you will have learned (what is of hardly less importance) many things to avoid.

But do not mount the teacher's platform and stare at the scholars as you would at the monkeys in a menagerie. You will not see the school to advantage till the teacher and pupils have lost the consciousness of your presence. Ask permission to sit among the boys (or among the girls if you are a young lady), and make yourself one of them. In half an hour they will forget they have a stranger among them; and in another half-hour the teacher will ignore your presence, too, and then the real work of your visiting-day begins. Do not take notes—at least during the exercises; at recess you may make some brief memoranda, but perhaps it is better to trust entirely to your memory. Teachers naturally object to have all their "faults observed, set in a note-book, learned and conned by rote," even though one does not mean to "cast them into their teeth" afterward.

Observe closely the following points: (a) The conditions of the school-room and play-ground before opening, as regards order, etc.; (b) the method of opening school; (c) the regulations regarding lateness; (d) the arrangement of the desks, recitation benches, maps, etc.; (e) the order of exercises; (f) the proportion of time assigned to each study; (g) the method of recitation in each subject; (h) the varying amount of interest shown by the pupils in the various studies; (i) the apparent effect of approbation or reproof on a pupil praised or blamed; (k) the effect of recess, calisthenic exercises, or singing, on the recitation immediately following any of these exercises; (l) the difference between the amount of attention given in the morning and the afternoon session; (m) the different effects produced by the teacher standing and the teacher sitting, by the teacher in one part of the room and in another part of the room; (n) the methods of moving the scholars into school and out of school, to the playground and from it, to recitation and from recitation. The catalogue of things to be observed is far from being exhausted, but what has been named will be sufficient for a sample.

After observation comes comparison. Compare the school you are visiting with your own school, in every particular named, and note especially those particulars in which they differ. If the differences seem to be very slight, your powers of observation are probably in fault; but they will improve with practice, and this is not to be your last school-visit. We expect you to spend one day

of every term in a similar way, even if you are compelled to pay for the lost (?) time—an outrage of which no school director, we hope, would be guilty. But even if the day has to be paid for, it must be taken; one cannot make an omelet without breaking eggs, and you cannot learn to be a teacher without making some sacrifice.

Now, having observed and compared the facts, the next inquiry is into the reasons. Why have you adopted one method, and why did your neighbour adopt another? Probably your host could throw some light on the subject, if he were not too tired to talk with you after his hard day's work. Let us hope that your way homeward lies in the same direction as his, and that you wind up a day of close observation by an hour's conversation about what you have seen.

M. A. NEWELL.

—In *National Teacher*.

2. UNCONSCIOUS TUITION.*

As the unconscious tuition emanates from the inmost spirit of the teacher's life, not by accident nor lawless caprice, but in real accordance with the antecedent growth and quality of his character, so it is the most decisive energy moulding the interior life of the scholar. The whole divine economy, as respects our constitution, renders it impossible to detach the power of a man's speech from the style of his personal manhood. A handsome but heartless speaker never yet stole the secret of a sincere conviction. He may gain an unlimited admiration, but he is abridged of permanent strength. The climate of abstract and unembodied thought is a polar zone.

If there is a moral ingredient in the business of education at all, then, as with all other institutions that affect society, the question is paramount: What is the quality, temper, life of the speaking man? Personal relations, friendships, sympathies, clasped hands, answering eyes, touch, symphonious heart-beats, constitute the chief charm and privilege and joy of existence. We can easily conceive of all the bare *matériel* of instruction being conveyed into a schoolroom through a mechanism of pipes in the wall, or maps let down by pulleys, and its discipline administered by a veiled executioner, no heart-relations being suffered to grow up between teacher and taught. Into what sort of a bleak degradation would a generation be reduced by such a machinery?

Yet every teacher approaches to that metallic and unilluminated regimen who lets his office degenerate into a routine; who plods through his daily task-work like the treadmill wood-sawing horse in the railway-station shed, with no more freshness of spirit than the beast, and no more aspiration than the circular saw he drives; who succumbs to the deadening repetition, and is a virtual slave, yoked under bondage to the outside custom of his work.

All sorts of human service are more or less exposed to be paralyzed by this torpor of routine; but no intellectual profession stands in more peril of coming under the blight of it than that of the teacher, partly for the reason that the same lessons recur, and partly because of the distance of attainment separating the preceptor from the pupil. There are some lawyers who plead like parrots; some doctors who give medicine as mechanically as a trip-hammer smites iron; some preachers who preach only from the throat outward, fetching up no deep breaths from the region of the heart; some manufacturers whose mental motions are as humdrum as their own shuttles, and engineers as automatic as the valves and levers of their engines. It is a greater mischief than we think, and strikes a deeper damage into the world's honour. Going through the whole lesson of life in the homeliest prose, from spade to sermon, from kitchen to church, from making loaves to making love, from marketing to marriage, such people dwarf down the whole wondrous majesty and mystery of our being to a contemptible carving-mill, turning out so many blocks or blockheads from so much timber. But the wrong done by it is never more disastrous than when it falls on the buoyant, the impressible, the affectionate, and aspiring soul of childhood. Let every beginner, on the threshold of his vocation, earnestly pray and strive to be saved from the doom of a routine teacher!

V. Papers on Education in various Countries.

1. THE AMERICAN SYSTEM OF EDUCATION.

The following statement of the system of education prevalent in this country was prepared at the request of Mr. Mori, Japanese Minister at Washington. It is to be translated into the Japanese

* From an admirable lecture on "Unconscious Tuition," by Right Rev. F. D. Huntington, D.D., Bishop of Central New York.

language for the use of the Japanese Government. It is probably the most authoritative statement of our educational system that has ever been put forth. The original draft was submitted to the scrutiny and criticism of a large number of the leading educational men of the country, and the form in which it now appears is the result of their suggestions and comments. It has received the approval and signatures of more than twenty presidents and ex-presidents of the leading colleges and universities of the country, and of twenty-three state superintendents of public instruction, besides a large number of prominent public men interested in education. The following is the statement:—

I. *Education Universal.*—The American people maintain in every state a system of education which begins with the infant or primary school and goes on to the grammar and high schools. These are called "public schools," and are supported chiefly by voluntary taxation, and partly by the income of funds derived from the sale of government lands, or from the gifts of individuals.

II. *Public Schools have been tried for 250 years.*—Their estimate of the value of education is based upon an experience of nearly two centuries and a half, from the earliest settlement of New England, when public schools, high schools and colleges were established in a region which was then almost a wilderness. The general principles then recognized are still approved in the older portions of the country, and are adopted in every new state and territory which enters the Union.

III. *The well-known Advantages of Education.*—It is universally conceded that a good system of education fosters virtue, truth, submission to authority, enterprise, and thrift, and thereby promotes national prosperity and power; on the other hand, that ignorance tends to laziness, poverty, vice, crime, riot, and consequently to national weakness.

IV. *State Action Indispensable.*—Universal education can not be secured without aid from the public authorities; or, in other words, the state, for its own protection and progress, should see that public schools are established in which at least the rudiments of an education may be acquired by every boy and girl.

V. *The Schools are Free, are open to all, and give Moral, not Sectarian lessons.*—The schools thus carried on by the public, for the public, are (a) free from charges for tuition; (b) they are open to children from all classes in society; and (c) no attempt is authorized to teach in them the peculiar doctrines of any religious body, though the Bible is generally read in the schools as the basis of morality; and (d) the universal virtues—truth, obedience, industry, reverence, patriotism, and unselfishness—are constantly inculcated.

VI. *Private Schools allowed and protected by law.*—While public schools are established everywhere, the Government allows the largest liberty to private schools. Individuals, societies, and churches, are free to open schools and receive freely any who will come to them, and in the exercise of this right they are assured of the most sacred protection of the laws.

VII. *Special Schools for Special Cases.*—Special schools for special cases are often provided, particularly in the large towns; for example, evening schools for those who are at work by day; truant schools for unruly and irregular children; normal schools for training the local teachers; high schools for advanced instructions; drawing schools for mechanics; and industrial schools for teaching the elements of useful trades.

VIII. *Local Responsibility under State Supervision.*—In school matters, as in other public business, the responsibilities are distributed, and are brought as much as possible to the people. The Federal Government, being a union of many states, leaves to the several states the control of public instruction. The states mark out, each for itself, the general principles to be followed, and exercise a general supervision over the workings of the system; subordinate districts or towns determine and carry out the details of the system.

IX. *Universities and Colleges essential.*—Institutions of the highest class—such as universities, colleges, schools of science, &c.—are in a few of the states maintained at the public expense; in most they are supported by endowments under the direction of private corporations which are exempted from taxation. Consequently, where tuition is charged, the rate is always low. They are regarded as essential to the welfare of the land, and are everywhere protected and encouraged by favourable laws and charters.—*Illinois Teacher.*

The first normal school, proper, in France, was established in 1808, and now she has 141.

The State of Connecticut offers to every school-district which shall raise a like amount, ten dollars the first year and five dollars each succeeding year for the purchase of apparatus, reference-books, and approved library books.

GIRLS' SCHOOLS IN NEW ENGLAND.

It is a fact not generally known to this generation that girls were wholly excluded from all our schools during the first 150 years of their existence, and it was not until 1808 that the statute recognized the fitness of woman to be a public instructor of the young. At first all the teaching was done by males, and it took more than 300 years to eradicate the prejudice against the employment of female teachers. In the enlightened towns and cities of Massachusetts girls were not allowed equal privileges with the boys in the public schools until about 1830. In Boston the first attempt to open the public schools to girls was made in 1790 by Caleb Bingham, a schoolmaster in that city, one of the earliest graduates of Dartmouth College, and the author of the *Columbian Orator*. He succeeded in getting the schools open to them during the summer months, when boys were scarce! This was continued until 1830, when the schools of Boston were thrown wide open to girls and boys. The record in New Hampshire is not much better. For 160 years the good people of Portsmouth made no provision for the education of females, and no regular instruction was provided for them until 1815. The academy of Exeter, like the college of Dartmouth, was opened to Indians and closed to women. It was not until 1823 that any institution existed in this State for the special benefit of women. In that year Adams' Academy was established in Derry, with L. P. Grand and Miss Mary Lyon as teachers. The latter subsequently found a wider field and imperishable fame at Mount Holyoke.—*Nashua Telegraph.*

3. FEMALE EDUCATION IN RUSSIA.

Female education is making rapid headway in Europe. A St. Petersburg correspondent of the *Augsburg Gazette* says that lately several Russian ladies, widows and unmarried, have come to the University of Zurich to devote themselves to the study of medicine and the sciences. The authorities of the University having previously denied admission to other Russian ladies who were not able to present the necessary certificate of capacity, the ladies who have now applied had the prudence to obtain beforehand from duly qualified examining committees all the certificates necessary for their entrance to the University.

4. EDUCATION AND CRIME.

The following extracts are taken from the recent report of the Eastern Penitentiary. It is to be very much regretted that the authorities of the Penitentiary do not report the number of *good scholars* among the convicts. The possession of the mere mechanical elements of knowledge, reading and writing, cannot be expected to have a very marked influence on the tendency to commit crime:

"The state of education on reception of the 240 prisoners was: Illiterate, 54; read only, 10; read and write, 176. That many of those who are recorded as being able to read and write do so very imperfectly is proven by the fact that of the 240 only 104 have attended school, and a number of these but for a few months, while 136 never went to school.

"It is a melancholy fact that numbers of our youth are growing up in ignorance and idleness, a condition most prolific of crime, and which, too, certainly leads, sooner or later, into this or similar institutions. Are there no means by which these poor unfortunates can be reached and rescued? Cannot the State devise a remedy for the evil? It is certainly a subject for the gravest and most patient investigation for all who have the welfare of their country at heart."

The report has the following suggestive paragraph concerning the importance of an industrial education:

"In close connection with education is to be found the industrial relation of our population. A great deal has been said and written from time to time about the benefits to be derived from giving every boy in the country a trade—a knowledge of some business which will secure to him the settled means of earning a livelihood. I believe that the industrial relations and pursuits before conviction, as shown in the statistical tables of the prisoners received during the last year, will convince any one, who will give the subject due consideration, of the necessity of something being done in this direction. Of the 240 received, 216 were unapprenticed; 12 were apprenticed, and left before the expiration of the term; and while 98 professed to have worked at apprenticeable trades, 12 only were apprenticed and served out their time; leaving 86 who could have spent but a few months, or at most a year or two, at their trades, a time not sufficient for them to understand them, and for them to become a means of support."—*Pennsylvania School Journal.*

VI. Ontario Law Course.

NEW CURRICULUM FOR LAW EXAMINATIONS.

The Benchers have made a good many changes in the subjects and books for examination of the various grades of students. We give below a complete list as arranged for the future. The regulation as to graduates of Universities comes in force next term; the other changes next Hilary Term. All former requisites for call or admission as attorneys not mentioned in the subjoined information will remain in force.

ADMISSION OF STUDENTS-AT-LAW.

I. Graduates of any University in Her Majesty's dominions empowered to grant degrees will be allowed to enter without examination upon giving a term's notice, paying the usual fees, and presenting their diplomas to the Convocation.

Others than graduates will be examined in the following books:—Horace, Odes, Book iii.; Virgil, *Æneid*, Book vi.; Caesar's Commentaries, Books v. and vi.; Cicero, *Pro Milone*; Arithmetic, Algebra to end of Quadratic Equations; Euclid, Books i., ii. and iii.; Outlines of Modern Geography; W. Douglas Hamilton's History of England; English Grammar and Composition. The examination will be partly written and partly oral.

PRIMARY FOR ARTICLED CLERKS.

Articled clerks will be required to pass an examination in the following books before their service will count under their articles: Caesar's Commentaries, Books v. and vi.; Arithmetic, Euclid, Books i., ii. and iii.; Outlines of Modern Geography; W. Douglas Hamilton's History of England; English Grammar and Composition; Elements of Bookkeeping.

INTERMEDIATE EXAMINATIONS.

1st Intermediate.—Williams on Real Property, Smith's Manual of Equity Jurisprudence, Smith's Manual of Common Law. The Act respecting the Court of Chancery (Con. Stat. U. C., chap 12,) C. S. U. C., chaps. 42 and 44.

2nd Intermediate.—Leith's Blackstone; in Greenwood's Conveyancing, the chapters on "Agreements," "Sales," "Purchases," "Leases," "Mortgages," and "Wills;" Snell's Treatise on Equity; Broom's Common Law; C. S. U. C. chap. 88; Stat. of Can. 29th Vic., chap. 28; the Insolvency Acts.

SCHOLARSHIP EXAMINATIONS.

1st Year.—Stephens' Blackstone, Vol. I; Stephens on Pleading; Williams on Personal Property; Griffith's Institutes of Equity; C. S. U. C., chap. 12; C. S. U. C., chap. 43.

2nd Year.—Williams on Real Property; Best on Evidence; Smith on Contracts; Snell's Treatise on Equity, the Registry Acts.

3rd Year.—Real Property Statutes in Ontario; Stephen's Blackstone, Book V.; Byles on Bills; Broom's Legal Maxims; Story's Equity Jurisprudence; Fisher on Mortgages, Vol. I., and chapters 10, 11 and 12 of Vol. II.

4th Year.—Smith's Real and Personal Property; Russel on Crimes; Common Law Pleading and Practice; Benjamin on Sales; Dart on Vendors and Purchasers; Lewis, Equity Pleading and Practice in this Province.

FINAL EXAMINATION FOR ATTORNEYS.

Leith's Blackstone; Watkin's Conveyancing, 9th edition. Smith's Mercantile Law; Story's Equity Jurisprudence; Leake on Contracts; The Statute Law; The Pleading and Practice of the Courts. Students will also be liable to be re-examined in all or any of the subjects of the intermediate examinations.

FINAL EXAMINATION FOR CALL.

Blackstone, Vol. I; Leake on Contracts; Watkin's Conveyancing; Story's Equity Jurisprudence; Stephens' on Pleading; Lewis, Equity Pleading; Dart's Vendors and Purchasers; Taylor on Evidence; Byles on Bills; The Statute Law; The Pleading and Practice of the Courts.

CALL WITH HONOURS.

In addition to the books for call only, candidates will be examined in Russell on Crimes; Broom's Legal Maxims; Lindley on Partnership; Fisher on Mortgages; Benjamin on Sales; Jarmin on Wills; Von Savigny's Private International Law (Guthrie's edition); Maine's Ancient Law. Candidates for call will also be liable to re-examination in any of the books for the intermediate examinations.

The fees are: for admission to the Society, \$50, for Attorney, \$60, for Barrister, \$100.

VII. Biographical Sketches.

1. JAMES DURAND, ESQ.

James Durand, late Registrar for the County of Frontenac, was the son of James Durand, Esq., of London, England, and was born in that city in 1799. His father settled in this country in 1808, and invested his means in land, a large portion of which purchase now forms part of the city of Hamilton—some time after which he was elected member for the County of Wentworth in opposition to the late Sir Allan Napier McNab—having served his term, he declined re-election and accepted the office of Registrar for the County, which office he held during the remainder of his life. The subject of our notice was only six years of age when he arrived in this country, and having obtained all the educational advantages the country then afforded, engaged in mercantile business at Dundas, dealing largely in wheat and flour, by which he lost a heavy sum. His integrity, enterprise and agreeable manners soon made him favourably known to the yeomen of the County of Halton, who on two successive occasions elected him to be their representative in Parliament. The County of Halton at that time comprised what is now Wentworth, Waterloo, Wellington, and part of Grey. Subsequently, on the division of the counties, he was elected for the County of Waterloo, thus giving him a Parliamentary career of twelve years. Mr. Durand's record in Parliament is said by those well qualified to speak on the subject, to have been characterised by more than ordinary talent, he having been a ready and fluent debater, a close, judicious reasoner, and possessed of a large amount of business tact and ability. On retiring from Parliament, he accepted for some years the position of city clerk of the City of Hamilton. The late Honourable Robert Baldwin offered him the Registrarship of the County of Frontenac and city of Kingston, the well-merited reward of political consistency, integrity and faithful adherence to his first and last principles, viz., those of the Reform party. Mr. Durand was twice married; first to a daughter of Dr. Rolph, and sister of the late Hon. Dr. Rolph. He married secondly Miss Attrill, who survives him. Mr. Durand has been Registrar of the County for upwards of twenty years, the duties of which he performed with great courtesy and punctuality, and to the satisfaction of all with whom he came in contact.—*Chronicle and News*.

2. JAMES DALLAS, ESQ.,

Mr. Dallas was born in Edinburgh in the year 1797, and emigrated to Canada in 1836, coming directly to Orillia, and settled on the property upon which he resided up to the time of his death. He and his brother purchased a large tract of land, and being possessed of capital and enterprise, did much to promote the settlement and growth of Orillia and the surrounding district. From an early period of his life, he took a strong interest and an active part in public affairs. In early life he was a Bailie of the city of Edinburgh—being a member of the Town Council when that body entertained King George IV., during his visit to Scotland, in 1822. He was second Warden of the County of Simcoe, when that office was an appointment of the Crown. He was also a Justice of the Peace, and for many years devoted his attention to the duties of the position with zeal, patience and impartiality, traits which marked the whole course of his conduct in every capacity, as a private gentleman or useful public member of the community. His magisterial duties conflicting with his principles—more particularly, we believe, in reference to temperance—he some time since discontinued his active services in connection with that office. Mr. Dallas took a lively interest in various projects for the moral and mental improvement of the people of Orillia. He was first President of the Orillia Mechanics' Institute, and the Annual Addresses with which were inaugurated each season's operations during his lengthened term of office, and the lectures he delivered before the Institute, displayed culture and very considerable erudition. He was also many years, and at the time of his death, President of the Branch Bible Society in this town. Mr. Dallas was a strict teetotaler, and both spoke and wrote strongly in favour of temperance principles.

When Mr. Dallas first settled in Orillia, the site of the present village was in possession of the Indians, who have since been removed to Rama. There were then but very few whites here, settled back of the Indian village. The Wesleyan Methodists were the first to introduce religious services into this region. They were followed by the Episcopalians, but it was not until ten years subsequent to the advent of the latter that Presbyterian services were established here. An upright and consistent member of the Presbyterian Church, Mr. Dallas was particularly liberal towards other denominations, and in these early days he frequently entertained the Bishop and clergy of the Episcopal Church, when officiating in

this village and vicinity. Those in difficulty of any kind, found in him a friend ever ready to sympathize, advise, or render pecuniary assistance, as might be required.

He was an ardent upholder of British institutions, and of the maintenance of the connection between Canada and the Mother Country. Mr Dallas was a contributor to several newspapers—more frequently since the establishment of a paper in Orillia, to the local press. Almost from the first issue of the original *Orillia Expositor* to the time of his last illness, the productions of his pen have continued to appear with more or less regularity. In the early days of the local paper in Orillia, when we had little or no experience in publishing, the editor found in him a wise counsellor and willing helper.

VIII. Miscellaneous.

1. THE OLD PROFESSOR.

BY THE LATE FRED. W. LORING.

The old professor taught no more,
But lingers round the college walks;
Stories of him we boys told o'er,
Before the fire, in evening talks.
I'll ne'er forget how he came in
To recitation, one March night,
And asked our tutor to begin
"And let me hear these boys recite."
As we passed out, we heard him say,
"Pray leave me hear awhile alone,
Here in my old place let me stay,
Just as I did in years long flown."
Our tutor smiled, and bowed consent,
Rose courteous from his high-backed chair,
And down the darkening stairs he went,
Leaving the old professor there.

From out the shadows, faces seemed
To look upon him in his old place,
Fresh faces that with radiance beamed—
Radiance of boyish hope and grace;
And faces that had lost their youth,
Although in years they still were young,
And faces o'er whose love and truth
The funeral anthem had been sung.

"These are my boys," he murmured then,
"My boys, as in the years long past:
Though some are angels, others men,
Still as my boys I hold them fast.
There's one don't know his lessons now,
That one of me is making fun,
And that one's cheating;—ah! I see—
I see and love them every one.

"And is it then so long ago
This chapter in my life was told?
Did all of them thus come and go,
And have I really grown so old?
No! here are my old pains and joys,
My book once more is in my hand,
Once more I hear these very boys
And seek their hearts to understand."

They found him there with open book,
And eyes closed with a calm content;
The same old sweetness in his look
That used to be when fellows went
To ask him questions and to talk,
When recitations were all o'er;—
We saw him in the college walk
And in his former place no more.

2. THE NEW GOVERNOR-GENERAL'S ESTIMATE OF THE DOMINION.

At the Banquet given in his honour in Belfast the new Governor-General, Lord Duferin, spoke as follows:—"There is one function of my great office which will prove a labour of love, and to the discharge of which I know I shall not be unequal, that which will consist in presenting myself to our fellow-subjects across the Atlantic as the embodiment and representative of that kind of feeling—that deep sympathy—(hear, hear)—of that ceaseless and indestructible pride and affection with which all classes and all parties in this country regard the inhabitants of our great Dominion.—(Cheers.) Ladies and Gentlemen, you are, of course, aware that the Govern-

ment of Canada is strictly constitutional—(hear, hear)—that it reflects in all respects the institutions of this country, and that this resemblance is maintained not merely by the outward form of its machinery, but what is of far greater importance, by that spirit of dignified, moderate, and sagacious statemanship which inspires the conduct of these distinguished men who have successively administered her affairs and directed the council of her legislation.—(Cheers.) Why, the mere creation of the Dominion, the union of the provinces, the concentration of power in the hands of an Imperial Parliament, whose jurisdiction now extends from ocean to ocean, is itself a proof of the patriotism; of the ability, and of the organizing power of the Canadian people.—(Hear, hear.) It is not to be supposed but that many local interests, prejudices, and traditions must have imagined themselves compromised by the absorption of the local legislature into the bosom of the mightier body; but not only have the wisest counsels on the subject been permitted to prevail, and all minor jealousies been obliterated, but even those who most vehemently opposed the arrangement, when once the controversy was concluded have acquiesced in the settlement, and with a loyal and generous patriotism have done their very best to render nugatory their own misgivings, and to make the system they at one time found it necessary to oppose, work to the best possible advantage.—(Cheers.) Ladies and Gentlemen, who can now doubt the constructive power, the statesmanlike instincts, and the vitality of the future of a community whose Parliament and whose statesmen can already boast of such notable achievements in the art of government?—(Hear, hear.) But, Ladies and Gentlemen, to be the interpreter of the good-will of the people of Great Britain towards the inhabitants of Canada is not the only congenial duty imposed upon me by my office. There is another of an analogous kind, which it will give me hardly less pleasure to discharge. Side by side with the Dominion of Canada, along a frontier of more than 2,000 miles, extends the territory of a kindred race—(hear, hear)—who are working out their great destiny under institutions which, though differing in some of their outward respects from our own, have been elaborated under the inspiration of that same love of freedom which characterizes the English-speaking race—(cheers)—that reverence for law—that sober, practical statemanship—(hear, hear)—that capacity of self-discipline—(hear, hear)—which characterize the English-speaking race.—(Cheers.) As the chief of the executive of Canada, and the representative of the British Crown, as the servant and spokesman of the British people, it will be my agreeable duty to exhibit on all occasions whatever of hospitality, courtesy, and friendliness to the citizens of the United States may most accurately exhibit genuine sympathy and good-will felt by this country for America, which, in spite of any momentary and superficial disputes that may trouble the outward surface of their amity, descends too deep down into the hearts of both peoples ever to be really shaken or disturbed. (Cheers.) It has been my good fortune to know a great number of distinguished Americans; some of my dearest friends are natives of the States, and not the least of the pleasant anticipations which await me is the prospect of acquiring a better knowledge and becoming more intimately acquainted with the social and political organization of that great and prosperous nation. (Great applause.) But of course the most constant and absorbing duty of every one connected with the Government of Canada, and one not less agreeable than those to which I have alluded, will be that of fostering and advancing the development of the latent wealth and the enormous material resources of the vast territory comprised within my jurisdiction. Few people in this country have any notion how blessed by nature is the Canadian soil. (Hear, hear.) The beauty, majesty and material importance of the Gulf of St. Lawrence is the theme of every traveller, while the stupendous chain of lakes to which it is the outlet is well known to afford a system of inland navigation such as is to be found in no other part of the habitable globe. The inexhaustible harvest of its seas, annually gathered by its hardy maritime population, the innumerable treasures of its forest, are known to all; but what is not so generally understood is that beyond the inhabited regions of the country, beyond the towns, the lakes, the woods, there stretches out an enormous breadth of rich alluvial soil, comprising an area of thousands of square miles, so level, so fertile, so ripe for cultivation, so profusely watered and intersected by enormous navigable rivers, with so exceptionally mild a climate, as to be destined at no distant time to be occupied by millions of our prosperous fellow-subjects, and to become a central granary for the adjoining continents. (Cheers.) Such a theme as this may well fire the most sluggish imagination, nor can there be conceived a greater privilege than that of being permitted to watch the development of an industry and civilization fraught with such universal advantage to the human race. (Cheers.) In fact, ladies and gentlemen, it may be doubted whether the inhabitants of the Dominion themselves are as yet fully awake to the magnificent destiny in store for them

(hear, hear,) or have altogether realized the promise of their young and virile nationality. Like a virgin goddess in a primeval world, Canada still walks in unconscious beauty among her golden woods and along the margin of her trackless streams, catching but broken glances of her radiant majesty, as mirrored on their surface, and scarcely dreams as yet of the glorious future awaiting her in the Olympus of nations. (Loud and continued cheering.)

3. HUMANIZING INFLUENCE OF PLANTS AND FLOWERS.

The success which has attended the introduction of plants and flowers as missionary agents in one of the institutions of the Children's Aid Society, indicates that these beautiful ministers of pleasure and refinement will, in the future, constitute an important feature of all charitable and reformatory work. When the Rivington street Industrial School was open four years ago, it was attended by some of the most incorrigible ragamuffins to be found in the city. They were gathered from the streets and docks, where they seemed to live day and night. Totally ignorant or oblivious of all law and morals, they were masters in all the arts of juvenile depravity, as it flourished in "Corlear's Hook" and "Mackerelville." The utmost vigilance on the part of the teachers was necessary to keep them from jumping out of the windows when there was any unusual commotion on the street. A band of music, a target excursion, or a fire-bell acted upon them like a match on a bunch of fire-crackers. The school is now one of the largest, most orderly, and prosperous in the city, and one of the most effective means of securing these results has been flowers. Plants and flowers raised in a conservatory presented to the institution, have been given weekly as rewards for proficiency in studies and punctual attendance, and the desire to obtain them has been very remarkable.—Upward of a thousand beautiful plants have in this way been distributed throughout the poorest section of the Thirteenth Ward. So that in hundreds of attic and basement windows may be seen beautiful specimens of geraniums, fuchsias, myrtles, coleas, ivies and other plants; beautiful pictures, sometimes with a very dark back-ground, but which, besides gratifying the eye, we trust leads the thoughts up to Him who said that Solomon in all his glory was not arrayed like one of these.—*N. Y. Times.*

4. REBREATHED AIR.

We do not know precisely how rebreathed air produces its deleterious influence, nor is it worth while to stop to inquire, in this discussion. It is certain that its effects are fatal to health. It would be absurd to assert that the frightful prevalence of consumption is due entirely to this agency; as all intelligent observers understand that there are many causes operating to produce or develop this disease. It is nevertheless probable that impure or rebreathed air is the greatest agent of evil in inducing, and rendering fatal, pulmonary affections. The crowded, badly-ventilated school-room, is often the place where, early in life, rebreathed air commences its deadly work. Not one schoolroom in a hundred, in this country, is a fit place in which to confine children six or eight hours of the day. The little ones are herded together in a promiscuous crowd; those of tender years and those more advanced, the feeble and the strong, the sickly and the well, are all subjected to the same hours of study, the same school discipline, and all breathe the same deleterious air. The hardy and the strong may be able to resist the influence of the poison; the weak and tender ones grow pale and haggard, and, struggling on through their school-days, live perhaps to the age of puberty, and then drop into the consumptive's grave. Will parents never awake to the enormity of this evil?

Small, ill-ventilated sleeping-rooms, in which rebreathed air is ever present, are nurseries of consumption. These are not found alone in cities and large towns, or among the poor and lowly.—Well-to-do farmers' daughters and sons in the country—those who live among the mountains, where God's pure air is wholly undefiled, are often victims of consumption. How is this explained? Look into their sleeping-rooms; examine into their daily habits of life, and the cause is made plain. Old-fashioned fireplaces are boarded up, rubber window-strips and stoves have found their way into the most retired nooks and corners of the land, and the imprisoned mountain-air is heated to a high point, and breathed over and over during the days and nights of the long winter months. It is certainly true that girls in the country take less exercise in the open air than those residing in cities. They appear to be more afraid of pure, cold air than city girls. Consumption is not less rare among females in the country than in cities, in the present age. It was not so formerly. The declarations of grandmothers and old physicians go to show that, fifty years ago, consumption was hardly known in the rural districts. The winds whistled

through the dwellings then, and the fires blazed and roared upon the hearth. Half the time, in the cold winters, "the backs of the inmates were freezing, while the front parts of the person were roasting;" and yet there was less rheumatism than now, and no consumption.

Whilst we have made changes in dwellings, workshops, and public buildings, which operate to sadly deteriorate and confine the interior air, the outside atmosphere is just as pure, just as healthful, as in the days of our ancestors. Let us adopt means to secure a full measure of this "pabulum of life," clear, undiluted, uncontaminated, day and night, during the hours of sleep and study. Let us live as much as we possibly can in the open air, and the measure of health will be greatly increased, and life prolonged.

—In *Fireside Science.*

JAMES R. NICHOLS.

5. EVILS OF TOBACCO USE.

Any one who cares to inform himself on the subject will, by reference to any standard medical authority, find that tobacco is classed among the powerful narcotics; and, by reference to any standard dictionary of the English language, he will learn that a narcotic is a drug which benumbs the nervous system, producing, in proportion to its strength and the weakness of the person using it, stupor and sluggishness. It lowers the vitality, and finally brings on dyspepsia and its universal concomitant, lowness of spirits; and if used a long time, and to excess, produces serious derangements of the liver, headache and dimness of vision, and not unfrequently palpitation of the heart, ending in sudden death, which the intelligent physician or coroner then pronounces to be "a visitation of Divine Providence."

A Bavarian correspondent of one of the leading American newspapers has lately endeavoured to make it appear that Baron Liebig is arrayed among the defenders of the use of tobacco, but does not venture to declare that that eminent chemist advocates its use by healthy people. He merely says that the Baron asserted, in a recent conversation, that during the late war between France and Germany, invalid soldiers manifested a great longing for segars, which, indeed, they would be very likely to do if they had previously acquired the habit of smoking, whether it was beneficial or baneful.

I have had a large experience in the class-room, and I say, without any exception, that I never knew a boy or young man who had used tobacco, in any form, long enough to allow of its taking hold of his system fairly, who led his classes, or even excelled in them. The characters of all such have been marked, so far as my experience is concerned, by inability to concentrate the mind steadily and continuously upon a given point, with a consequent lack of power to conquer knotty difficulties, and by general fickleness of purpose. These results would naturally follow from the use of a drug whose effects upon the human system are such as have been described above.

We hear ignorant and silly parents complaining, in every quarter, of the inefficiency of their sons—that they can no longer get them to apply themselves steadily to any useful pursuit—that, in spite of all the money they have expended on them, they are unable even to write a creditable business letter, or read intelligibly a passage from a favourite author, or even the morning paper—that they are inclined to spend their time in amusements that require no capacity or application of mind—in short, that they are thoroughly trifling and frivolous. Now I do not attribute these results exclusively to tobacco, for I am entirely convinced that other causes conspire to produce them, but I do assert that the almost universal use of that narcotic by the boys and young men of the present generation is one of the most efficient of the causes of this deplorable state of affairs, which are not, in my opinion, yet at their worst.

If these statements and inferences are even partially correct, I submit it to the teachers of Pennsylvania whether they are not in duty bound to present them and hold them up persistently before their schools.

Of the disgusting filth which results from the use of this drug, which renders it almost impossible for a gentleman to travel in a public conveyance without defiling his garments, and which has rendered us a by-word among the nations, I will here say nothing.—*Eboracum, in Pennsylvania School Journal.*

IX. Short Critical Notices of Books.*

—GENTLE MEASURES IN TRAINING THE YOUNG.—By Jacob Abbott.

—There are few questions connected with the early education of children that are not discussed in the course of the volume, with reference to the leading principle of which it treats; each topic is illustrated by a

* New York: Harper & Brothers; Toronto: Copp, Clark & Co.

variety of examples derived from practical life; and the whole treatment of the subject evinces the parental wisdom of the author, his deep insight into the juvenile nature, and his large experience in the work of education.—*N. Y. Tribune*.

—OUR GIRLS.—By Dio Lewis, M. D.—Dr. Lewis talks very plainly and sensibly, and makes very many important suggestions. He does not mince matters at all, but puts every thing in a straightforward and not seldom homely way, prescious to the dullest understanding. His style is lively and readable, and the book is very entertaining as well as instructive.—*Register*, Salem, Mass. It contains suggestions and teaching of precisely the kind that "our girls" everywhere need.—*N. Y. Independent*. Full of practical and very sensible advice to young women.—*Episcopalian*.

—WOMAN'S WORTH AND WORTHLESSNESS.—By Gail Hamilton.—To her mind, the author assumes that in a well-regulated social system woman would not be required to work; and from this starting-point she proceeds to show what are her duties in society as it exists, what she can and what she can't do, as well as what she ought or ought not to do. The book will be widely read, not only by women but by men, for it is full of common-sense and brilliant writing, and is interesting from beginning to end.—*N. Y. Evening Post*.

—THE BAZAR BOOK OF DECORUM.—A series of sensible, well-written, and pleasant essays on the care of the person, manners, etiquette, and ceremonials. The title *Bazar Book* is taken from the fact that some of the essays which make up this volume appeared originally in the columns of *Harper's Bazar*. This in itself is a sufficient recommendation—*Harper's Bazar* being probably the only journal of fashion in the world which has good sense and enlightened reason for its guides. The "Bazar Book of Decorum" deserves every recommendation.—*Independent*.

—LIFE AND LETTERS OF CATHARINE M. SEDGWICK.—Edited by Mary E. Dewey.—A very neat volume, wherein, thanks to the sympathetic tact of Mary Dewey, we have exhibited the beautiful qualities of mind and heart, the pure, useful, noble character, in a word, the "daily beauty" of Catharine Sedgwick's Life. Her letters, herein gathered, are the genuine and gracious embodiment of her nature. They are charming and cheering—a noble picture of disinterested womanhood. "The Life and Letters of Catharine M. Sedgwick" will add another delightful volume to the standard library of American biography.—*Boston Transcript*.

—LIFE AND TIMES OF THE REV. JOHN WESLEY, M. A.—By the Rev. Luke Tyerman.—Mr. Tyerman's work was fairly called for, both by the fact that no life of Wesley had been published for forty years, and because Southey's, the only one tolerably written as a literary performance, is the production of a writer who was not himself a member of the Society, who in few points of character resembled the subject of his memoir, and possessed no sources of information which were not already before the world. Mr. Tyerman is a Wesleyan minister, and his materials, both printed and in manuscript, have been accumulating for seventeen years. He has made most diligent use of them; and his history, in regard to its facts, is incomparably more full than any that preceded it.—*Saturday Review*, London.

—HEAT—SCIENCE FOR THE YOUNG.—By Jacob Abbott.—This book treats of the principles of combustion, and the chemical questions connected with that subject, of the correlation of forces, and the mechanical theory of heat. The information is brought down to the latest results of physical research. The most recent discoveries are described in language of great lucidity, and illustrated with impressive and forcible examples. The work is clothed in a slight dramatic form, which is adapted to win the attention of young readers, without impairing the precision of the statement.

—LIGHT.—By Jacob Abbott.—Treats of the theory of "Light," presenting a popular form the latest conclusions of chemical and opti-

cal science on the subject, and elucidating its various points of interest with characteristic clearness and force. Its simplicity of language, and the beauty and appropriateness of its pictorial illustrations, make it a most attractive volume for young persons, while the fulness and accuracy of the information with which it overflows commends it to the attention of mature readers.—*N. Y. Tribune*.

—LIFE OF THE STEPHENSONS.—By Samuel Smiles.—Mr. Smiles' book is one of the most attractive of biographies, both as regards the personal character of a poor man of genius, fighting out the battle of life with an exemplary valour, and, in a more general way, the history and progress of the railway system in the place where it originated. It contains every thing necessary to be known on that theme, and is as well written as it is comprehensive. It will be the popular life of the Stephenson, as Southey's book is the popular life of Nelson.—*New York Times*.

—FIVE ACRES TOO MUCH.—By Robert B. Roosevelt.—One of the pleasantest bits of satire we have read for some time. The author has written the book for the purpose of having a good-humoured fling at the writers of works which profess to show how, out of half a dozen acres of land anywhere, the veriest novice can make splendid profit and good time as a practical farmer. So Mr. Roosevelt tells us how, fired with the noble inspiration these books suggest, he got his five acres, built his house, bought his horse, cows, pigs and poultry, and went to work to convert himself into a successful agriculturist. His experiences are very droll, and the financial results he arrives at highly ingenious and satisfactory. There is not too much extravagance in the book—just enough to make one laugh, not enough to convert the mirth into broad farce and grotesquerie.—*Independent*.

—FAMOUS LONDON MERCHANTS.—By H. R. Fox Bourne.—Tells pleasantly, and with much casual information about commerce and foreign countries, the story of the lives of thirteen London merchants, from famous Dick Whittington to our honoured countryman, George Peabody. Most of them were self-made men, and surely no better incentives to a proper ambition can be placed before boys than these simple stories of real and honoured lives. It is a book, too, which boys will seize upon gladly, since it allows the subjects to speak for themselves, and attempts no moralizing. We know of no book which a father could better buy for his boys.—*N. Y. Evening Mail*.

—THREE SEASONS IN EUROPEAN VINEYARDS.—By William J. Flagg.—Besides being a summary of useful information concerning the produce of the grape, the present book contains an extremely pleasant sketch of travel, interspersed with many reflections of much interest and observations of considerable originality, affording a picture of a certain phase of French life unknown and unseen by ordinary tourists. It is full of that kind of entertaining reading which Sir Philip Sydney styles "trifle, triflingly handled;" and congenial fancy kindles over descriptions of the beautiful scenery, the oddities of local customs, the luxurious vineyards, the genial atmosphere, "the incense of fruitful summer, the incense of fruit-time," the village feasts and pastimes, and, rarest of all, the happy peasantry, not yet rendered unhappy by demagogues and visionaries.—*Round Table*.

—TRAVEL AND ADVENTURE IN THE TERRITORY OF ALASKA.—By Frederick Whymper.—This agreeable book of travel and adventure. * * * The purchase of Alaska by the United States Government has awakened a lively interest in that region; and whatever relates to its natural features, its inhabitants, its existing state, and its possible resources, comes to us with the two-fold charm of novelty and material interest. Mr. Whymper was able to take with him the requisite qualifications for breaking ground in that new and, in many respects, rough and uncivilized quarter, as the results of his exploration in the clearly-written and cleverly-illustrated volume before us testify. * * * All that is most original and striking in his narrative centres in his experiences of life in the lately-ceded territory, and in the estimate which

his graphic pictures of its physical aspects and of its people encourage us to draw for the future.—*Saturday Review*.

—THE STUDENT'S OLD TESTAMENT HISTORY.—Edited by William Smith, LL.D.—In the preparation of the text it is evident that great care has been taken to render the work one that, while reverent and recognizing the sanctity and claims of Revelation, should be suitable for the characteristic criticism and exegesis of the age. It is an excellent condensation of nearly all the valuable matter that criticism, historical, ethnographical, topographical, and chronological investigations have accumulated round the Old Testament Word of God.—*Presbyterian* (Chicago).

—THE STUDENT'S NEW TESTAMENT HISTORY.—Edited by William Smith, LL.D.—A valuable and cheap compendium of accurate information drawn from the most recent results of scholarship.—*Advance*. Sabbath-school teachers, and the more advanced pupils of Sabbath-schools, as well as intelligent private students of the Scriptures, will find this a helpful and remunerative volume.—*Congregationalist*.

—THE WEDDING DAY IN ALL AGES AND COUNTRIES.—By Edward J. Wood.—One of the most curious books we have seen for a long time. It is packed full of facts. Beginning with the institution of marriage, the author successively treats of all the strange and picturesque customs by which different peoples have given character and interest to the marriage ceremony. The past has been ransacked, and the present investigated. History, poetry, philosophy, archaeology, have all been drawn upon, and the result is one of the most entertaining books we have seen for a long time.—*N. Y. Commercial Advertiser*.

—PRE-HISTORIC NATIONS.—By John D. Baldwin.—Mr. Baldwin has treated an interesting subject with great lucidity and breadth, while his reading and research are apparent on every page.—*Examiner and London Review*.

—SIGHTS AND SENSATIONS IN FRANCE, GERMANY, AND SWITZERLAND.—By Edward Gould Buffum.—Mr. Buffum's style is remarkably good and graphic, and his descriptions of the scenes he has witnessed are among the best we have seen—so simple, animated, and to the point. He seems to have had a genius for observation and the happy management of facts, and every thing he sees is distinctly seen by the reader as well.—*N. Y. Times*.

—JESUS OF NAZARETH—HIS LIFE AND TEACHINGS.—By Lyman Abbott.—This is remarkable for its valuable endeavours, first to prepare the way for the intelligent comprehension of the life of the Redeemer, by four preliminary chapters, which discuss: (1) the peculiarities, physical and otherwise, of the Holy Land itself; (2) the Jewish Commonwealth, its religious sanctions and moral precepts, its judicial peculiarities, its measure of popular education, its political economy, its national church, and its Scriptures; (3) the decay of that Commonwealth, the captivity, and the Roman subjugation; (4) the civilization of the Jews, and the whole manner of their dress, food, manners, pursuits, and daily life. The way thus being prepared, and the background painted in, the Christ is outlined and then coloured upon it, from Bethlehem to Calvary. Second, for the extremely fresh and interesting way in which the events of Christ's life are told. And third, for the temper of the book, which is unaffectedly written from the Christian stand-point, as Renan's was from that of rationalism.—*Congregationalist*.

—SERMONS BY HENRY WARD BEECHER.—The published sermons of the Plymouth pastor, like wind-wafted seed, have carried the germs of a new life to all quarters of the world, and have awakened the immortal longings of the hunter in his prairie cabin, and the sailor on the distant sea. No one needs that we should speak of the exuberance of illustration and the felicity of expression that make these books as fascinating as the pages of old Thomas Fuller or the essays of "Elia." Everybody has come under the glamour of Mr. Beecher's style, and everyone of these pages abounds in his peculiar beauties. Here is no garden, but (according to the author's own lavish idea of the desirable) a whole prairie of flowers.—*N. Y. Times*.

—THE TEACHER, THE PUPIL, THE SCHOOL.—By Nathaniel Sands.—There are many excellent suggestions in this little treatise of Mr. Sands', who has evidently given much thought to the philosophy and the process of education. He would have a radical change in the system of teaching, by which there shall be less stuffing and more feeding; fewer books, and more of the living instructor's effort. It is a small volume, but compact with thought.—*New Bedford Mercury*.

—PICTORIAL FIELD-BOOK OF THE WAR OF 1812.—By Benson J. Lossing.—Mr. Lossing's industry is equalled only by his conscientiousness, which leads him to treat all parties to the War of 1812 with impartiality, and to give all the facts that throw light upon the contest. * * * The time has come when it is possible to write of it with candour as well as with spirit, as Mr. Lossing writes its history; and the time has come, too, when we are beginning to understand its real effect on the country, and when it is possible to discuss its character and its consequences in a philosophical manner, as Mr. Lossing discusses them. * * * The volume is beautifully printed. The paper and the binding are faultless. In fact, the book pleases the eye as much as it affords food for the mind. It should be in every library, public and private.—*Boston Traveller*.

—THE POLAR WORLD.—By Dr. G. Hartwig.—Those of our readers who are acquainted with Dr. Hartwig's former books on Physical Geography, especially his "Tropical World," will be disappointed by his description of man and nature in the Arctic and Antarctic regions of the globe. Whereas within the tropics the variety and abundance of nature throw man and his works into the shade, in the "Polar World" man becomes the most important and interesting animal. A great part of Dr. Hartwig's book is taken up with the adventures and hair-breadth escapes by land and sea—Norsemens, Finns, Cossacks, Russians, Dutch, English and Americans. Among these, the Finn philologist Castren is perhaps the most interesting. He wore out his life travelling across the frozen deserts of Northern Europe and Asia, from Lapland to Lake Baikal, studying the languages of the most remote tribes, and died soon after his return to the University of Helsingfors. Equally interesting is the account of the Cossack conquest of Siberia by the adventurous robber Yermak Timodajeff. The book contains several lively sketches of the natives of these inclement regions, including not only the Lapps, Samoyedes, Jakuts, etc., of Europe and Asia, but also the Esquimaux and Indians of Arctic America.—*Pall Mall Gazette*.

—FISHING IN AMERICAN WATERS.—By Genio C. Scott.—Contains a vast amount of information concerning the sea and fresh-water fishes of our American waters, the various methods of capturing them, the tackle to be employed, etc. Important in respect to fish-culture. This book, like the author of it, is eminently practical, and every angler ought to have it. We doubt whether there is another man in America capable of writing and illustrating, as Mr. Scott has done, such a book as this.—*Spirit of the Times*.

X. Educational Intelligence.

—BRUCE MINES SCHOOL, LAKE HURON.—A correspondent writes as follows:—The quarterly examination of the Public School for boys, taught by Mr. Pierce Langrell, was held on Tuesday, 12th ult., when several ladies and gentlemen of the place attended, and at the close expressed their satisfaction with the progress and intelligence of the scholars, and the consequent skill and industry of the teacher. Nothing daunted by deep snow and chilling frost, the boys had asked permission to decorate the school-room, and, notwithstanding the teacher's opinion that it was an unsuitable time of the year, their enthusiasm would not be restrained, so that the room was tastefully ornamented with evergreens, artificial flowers, &c. The prize examinations of both boys' and girls' schools were held the following week, when several gentlemen of the place kindly acted as examiners. Thanks to the liberality of the trustees, and the promptitude with which the Education Department had answered their application, a choice selection of prizes was dis-

tributed to deserving pupils on Friday afternoon, 22nd ult. On this auspicious occasion a goodly number of visitors presented themselves, when Mrs. James Williams was selected to distribute the boys' and Captain John W. Plummer the girls' prizes. Miss Groome, teacher of female school, was then presented with a handsome necklace from some of her pupils. James Williams, Esq., Superintendent of Wellington Mine, on behalf of the boys, presented Mr. Langrell two large and valuable volumes in which was inscribed, "Presented to Mr. E. P. Langrell by some of his scholars as a testimony of their respect and esteem." Mr. Langrell accepted the present amidst many expressions of sympathy from his scholars, and expressed his feelings in a few appropriate remarks. Mr. Langrell, I may say, completed his education at the Toronto Normal School, where he graduated "First Class."

—**DR. MAY'S LECTURE IN BELLEVILLE.**—The second lecture of the course before the Young Men's Christian Association was delivered last night by Dr. S. P. May, Clerk of Libraries in the Education Department, Toronto. The lecture, so called, was perhaps rather an exhibition than a lecture—embracing an elaborate display of chemical experiments, interspersed with incidents growing out of the subject. Dr. May commenced by detailing the diabolism practised by the ancients, the mode of discovery of the elements employed by them, the base uses to which their crude scientific discoveries were employed—following up in order the successive advancements made until the present time, when chemical agents are so largely employed in the industrial and commercial pursuits of life. Then he brought out his Laboratory of chemical and mechanical appliances, and exhibited to the audience the astonishing effects that can be produced by the subtle agents that have been discovered by the illustrious men of science, whose labours and experiments have added so much to human knowledge. The magnetic and electric forces were exhibited in various ways to the astonishment and delight of the uninitiated. The air pump and its uses were well shown, as well as the immense power of attraction. But perhaps nothing so astonished the audience as the burning of metallic magnesium—filling as it did the hall with a light rivaling that of the sun. The combustible character of chemicals was also exhibited—burning water, as well as the active celebrated Greek fire, the component parts of which he thought it not prudent to disclose. The audience was kept in rapt interest until about ten o'clock, when an exhibition *à la* the "Wizard of the North," entitled "The Sphinx," portrayed to the people how the deceptionists, who play tricks for money, deceive the people—closing with this ancient bodiless Egyptian head singing, in fine modern voice, the national anthem.

—**CONVOCATION AT QUEEN'S UNIVERSITY.**—The interesting proceedings attending the conferring of the degrees at the close of the session were held the 2nd of May. The ceremony began by prayer from the Rev. Principal, after which the prizes were distributed to the deserving candidates as published in our issue of yesterday. The utmost harmony prevailed, and the various successful candidates were cheered to the echo by their less fortunate compeers. The ceremony of laurea-tion was then proceeded with, and the degree of B. A. was conferred upon Malcolm McGillivray, Collingwood, and James Cormack, Kingston, and of M. A. on John McIntyre, barrister of this city, and John Agnew, M. D., County Inspector of Schools for Frontenac. The Principal then, in a few well-selected words, addressed the graduates on their very honourable position, and the no less important duties connected therewith. His remarks were concise, and marked with that emphasis which always characterizes the public sayings of the very rev. gentleman. He then made an announcement of an additional scholarship for the students of the fourth year, to be competed for next session, on the subject of Biblical History. The general audience now retired, and the graduates proceeded in their convocation to elect fellows in the various faculties. The gentlemen selected were: In Divinity, Rev. J. Bain, D. D., Perth; in law, Hon. Vice-Chancellor Mowat, LL.D.,

Toronto; in Arts, John McIntyre, M. A., of this city; in Medicine, Dr. Cluness, of California.—*Chronicle and News.*

GLENGARRY TEACHERS' ASSOCIATION.—The first regular meeting of the Glengarry Teachers' Association took place at Alexandria on the 1st inst. Most of the teachers in the county were present, and all took a lively interest in the meeting. Considering that this was the first meeting of the kind ever held in the county, it was an undoubted success. All the male teachers in the county enrolled their names as members of the association; and a constitution and by-laws were drawn out and unanimously adopted for its management. The subjects discussed were "School Government," led by A. Kennedy, and followed by A. Jamieson, High School Teacher, Williamstown, and John E. Campbell; "Object Lessons," led by A. W. Ross, Public School Inspector, and followed by others; "The best approved method of teaching the First Book of Lessons," and "Mental Arithmetic." The discussions were lively, and it is hoped beneficial to all the teachers present. About forty dollars were subscribed on the spot for the purpose of starting a Teachers' Library, and the prospects are so good that it is anticipated sixty dollars more will be subscribed within a few days.—*Cornwall Gazette.*

MR. WOODS' RETIREMENT.—Mr. Woods, the efficient Inspector of the Kingston Schools, in his remarks before the Board of Trustees on his retirement, said: Any person having his experience (Mr. Woods') was well aware of the large amount of work it entailed—the labours of an Inspector under the new regulations being increased fully ten-fold; it was one report after another, continuously, to the Education Department, Toronto, and unless they were prepared with care, and devoid of inaccuracies, they would be returned for amendment. Before taking his leave he wished to heartily return thanks for the kindness and respect with which he had been received and treated by the Board in the capacity of Superintendent during the past five years, the resignation of which would sever every tie existing between himself and the trustees, except that of good feeling and warm friendship; but in retiring, it was his ardent desire to see the interests of the Public Schools promoted. He had occupied the chairmanship of the Board of Examiners—that position will also be vacated by him, and the seat assumed by Prof. Dupuis, and he sincerely hoped and trusted that the same cordiality would continue between that gentleman and the teachers and employees of the Board, as when he had the office. Within the past five years, in all his intercourse and dealings with the Public Schools, he had no occasion to utter a complaint against any teacher or subordinate official; and now he thought, instead of murmurings, there were expressions of regret. The Chairman said he was sure that all deeply regretted the severance which had taken place between Mr. Woods and the Board. Had the duties of that gentleman as Principal of the Collegiate Institute not made it obligatory for him to resign the position of Inspector, there were none, he was certain, who could discharge the labours pertaining to that office to better advantage and meet the approbation of the public more than Mr. Woods. He had devoted many years to the profession of teacher of a prominent institution, was possessed of extensive experience, and was therefore better qualified for Inspector than any university graduate or professor of a College.—*Chronicle and News.*

XI. Departmental Notices.

REVISED GENERAL REGULATIONS RESPECTING THE EXAMINATION OF CANDIDATES FOR CERTIFICATES AS PUBLIC SCHOOL TEACHERS.

1. Every candidate, who proposes to present himself at any examination, shall send in to the presiding Inspector, at least three weeks before the day appointed for the commencement of the examination, a notice stating the class of certificate for which he is a candidate, and the description of certificate he already possesses, if any; such notice to be accompanied by the testimonial required by the programme.

2. The examination, except in reading, shall be conducted wholly on paper. The special examination in the principles of linear drawing and vocal music is required of all candidates; but the further special examinations in linear drawing, on the blackboard, and practice of vocal music, provided for in Regulation 10 of the *Powers and Duties of Examiners*, are at the discretion of the Board.

3. The Inspector shall furnish to the Chief Superintendent, full numerical returns in all doubtful matters relating to the results of the examinations, and any points relative to the examinations, on which a majority of the Examiners do not agree, shall be referred to the Chief Superintendent for decision.

4. The candidates, in preparing their answers, will write only on one page of each sheet. They will also write their names on each sheet, and, having arranged their papers in the order of the questions, will fold them once across and write on the outside sheet their names, and the class of certificate for which they are competing. After the papers are once handed in, the examiners will not allow any alteration thereof, and the presiding Inspector is responsible for the subsequent safe-keeping of the same, until he has transmitted them to the Education Department.

5. The presiding Inspector or Examiner must be punctual to the moment in distributing the papers, and in directing the candidates to sign their papers at the close of the allotted time. No writing, other than the signature, should be permitted after the order to sign is given. The candidates are required to be in their allotted places in the room before the hour appointed for the commencement of the examination. If a candidate be not present till after the commencement of the examinations, he cannot be allowed any additional time on account of such absence.

6. In examining the answers of candidates, at least two Examiners should look over each paper.

7. The Central Committee of Examiners appointed by the Council of Public Instruction will, in a paper, assign numerical values to each question or part of a question, according to their judgment of its relative importance. The local Examiners will give marks for the answer to any question in correspondence with the number assigned to the question, and the completeness and accuracy of the answer.

8. In order that a candidate may obtain a second class certificate, the sum of his marks must amount, for grade A, to at least two-thirds, and for grade B, to fully one-half of the aggregate value of all the papers; in both cases the greatest importance will be attached to accurate spelling. In order to obtain a third class certificate, the marks must be not less than one-half of the aggregate value of all the papers for certificates of that rank. A candidate for a second class certificate, who fails to obtain it, may be awarded a third class certificate, provided such candidate obtains what would be equivalent to fully one-half of the aggregate value of all the papers for a third class certificate.

9. The names of successful candidates shall be arranged alphabetically, in classes and grades.

10. In the event of a candidate copying from another, or allowing another to copy from him, or taking into the room any book, notes, or anything from which he might derive assistance in the examination, it shall be the duty of the presiding Examiner, if he obtain clear evidence of the fact at the time of its occurrence, to cause such candidate at once to leave the room; neither shall such candidate be permitted to enter during the remaining part of the examination, and his name shall be struck off the list. If, however, the evidence of such case be not clear at the time or be obtained after the conclusion of the examination, the Examiners shall report the case at a general meeting of the Examiners, who shall reject the candidate if they deem the evidence conclusive.

11. After the Examinations of July, 1872, no person shall be eligible to be a candidate for a second class certificate, unless he shall have previously obtained a third class certificate, under the present system of Examinations, or a first or second class certificate under the former system of County Board Examination.

PAYMENTS TO TEACHERS.

SUPERANNUATION FUND.

The forty-third section of the School Act of 1871, declares that each male teacher holding a certificate of qualification, shall pay four dollars annually into the superannuated teachers' fund, and "each inspector of schools is hereby authorized and required to deduct (two dollars) half-yearly from any payments made by him to any male teacher under his jurisdiction, and transmit the same to the Education Department." In doing so, he will have to see that the sum of two dollars, payable semi-annually to the superannuated teachers' fund by each male teacher, is deducted from each teacher's half-yearly salary, whether paid direct to the teacher by the trustees or by order on the inspector.

Where trustees pay to, and a male teacher receives from them, his whole salary, without accounting to the inspector for the half yearly payment to the superannuation fund, the inspector should notify the trustees that until the money is sent to him no further apportionment will be paid to their school. This would effectually prevent the evasion sometimes practised in this matter.

Any cheques for school money due a section, must be made payable to the (qualified) teacher or his order, and to no other person; and no cheque shall be given to such teacher except on an order signed by a majority of the trustees of the school section, and attested by a lawful corporate seal, and then only for the time during which the teacher has held a legal certificate of qualification, not cancelled, suspended, recalled or expired.

In giving cheques to male teachers the half-yearly payment of two dollars to the superannuated teachers' fund must be deducted. In case trustees should pay male teachers in full out of the funds of the section and then give a cheque to their next teacher, (male or female), for the full amount apportioned to their section, the inspector, being responsible for the money, must deduct the two dollars already due, besides taking the remedial steps indicated above.

SUPERANNUATED TEACHERS' FUND.

EXTRACTS FROM THE SCHOOL LAW, 1871.

* * "On the decease of any teacher, his wife, or other legal representative, shall be entitled to receive back the full amount paid in by such teacher, with interest at the rate of seven per centum per annum."

* * "Any teacher retiring from the profession shall be entitled to receive back from the Chief Superintendent one-half of any sums thus paid in by him to the fund."

OFFICIAL REGULATIONS IN REGARD TO THE SUPERANNUATION FUND.

The regulations for the administration of the Superannuated Teachers' Fund, adopted by the Council of Public Instruction, are as follows:—

(1.) Teachers who became superannuated, or worn out, on or before the first day of January, 1854, and who produce the proofs required by law, of character and services as such, may share in this fund according to the number of years they have respectively taught a Public School in Ontario, by depositing with the Chief Superintendent of Education, the preliminary subscriptions to the Fund required by law.

(2.) Every Teacher engaged in teaching since 1854, in order to be entitled, when he shall have become superannuated or worn out, to share in this Fund, must have contributed to it at the rate of five dollars per annum for each year, from the time when he began to teach, up to the time of his first annual subscription of four dollars (as required by the statute), for each subsequent year during which he was engaged in teaching. No subscriptions, either for arrears or otherwise, can be received from those who have ceased to teach [and in all cases the annual payment, unless made within the year for which it is due, will be at the rate of five dollars].

(3.) No Teacher shall be eligible to receive a pension from this Fund, who shall not have become disabled from further

service, while teaching a Public School, or who shall not have been worn out in the work of a Public School Teacher.

(4.) All applications must be accompanied with the requisite certificates and proofs according to the prescribed form and instructions. No certificate in favour of an applicant should be signed by any Teacher already admitted as a pensioner on the Fund.

(5.) In case the Fund shall at any time not be sufficient to pay the several claimants the highest sum permitted by law, the income shall be equitably divided among them, according to their respective periods of service.

(6.) Communications and subscriptions in connection with this Fund, are to be sent to the Chief Superintendent of Education.

NOTE.—With respect to the arrears of subscription, it is to be observed that they can be paid at any time while the teacher is still engaged in that capacity, not after he has ceased. No payment is required for any year during which the teacher was not employed, or for any year prior to 1854, even if the teacher was teaching before that time.

It is further to be remembered that payment of the arrears is not *obligatory*, but is to the interest of the teacher, as the years (from 1854) for which there has been no subscription, will not be reckoned in making up the time of service for the pension.

In no case are subscriptions required except for the years of teaching for which a pension will be claimed.

NEW SCHOOL MANUAL.

In answer to various inquiries on the subject of a new School Manual we would say, that it is not thought desirable to publish a School Manual at present. Such a Manual should include in it the official regulations, but as they will not be revised until about the close of the present year (1872), or later, they cannot be embodied in the manual until then.

We would state, however, that the whole of the School Law and the general official regulations will be found in this Journal for May and June, 1871. Copies of these journals, when published, were sent by mail and addressed to each school corporation in Ontario. The supply is, however, now exhausted.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and consent to employ *two* masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

McGILL UNIVERSITY, MONTREAL.

SESSION 1872-73.

THE CLASSES IN THE SEVERAL FACULTIES will open as follows:—

FACULTY OF ARTS, September 16th.

FACULTY OF MEDICINE, October 1st.

FACULTY OF LAW, October 1st.

The Department of Practical Science in the Faculty of Arts, including Courses in Engineering, Mining, Practical Chemistry and Assaying, September 16th.

The Classes in the McGill Normal School will be open on the 2nd September.

In the Examinations in the Faculty of Arts, commencing September 16th the following Scholarships and Exhibitions will be offered:—

First Year 3 Exhibitions—2 of \$125; 1 of \$100.

Second Year 3 Examinations—2 of \$125; 1 of \$100.

Third Year 4 Scholarships, tenable for two years, of \$100 to \$125 yearly.

The Calendar containing details of all the above Courses may be had on application, post-paid, to the undersigned.

W. C. BAYNES, B.A.

Secretary.

July 6.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme.....	} Large Sheets.	} The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table.. ..		
4. Duties of Pupils.....		
5. The Ten Commandments		
6. Library Regulations	} Small Sheets.	
7. List of authorized Text Books.....		
8. Merit Cards and their uses.....		
9. Hints on constructing Time Tables.....		
10. Departmental Notices.....		

SHORT ADVERTISEMENTS inserted in the *Journal of Education* for 20 cents per line, which may be remitted in postage stamps or otherwise.

TERMS: For a single copy of the *Journal of Education*, \$1 12 per annum. Back vols., neatly stitched, supplied on the same terms. All subscriptions to commence with the January Number, and payment in advance must in all cases accompany the order. Single numbers, 12½ cents each.

All communication: to be addressed to the Editor, J. GEORGE HODGINS, LL.D., Education Office, Toronto.

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THE NORMAL SCHOOL FOR ONTARIO.

The establishment of a Normal School for the training of teachers, as a necessary part of a national system of education, engaged attention in Upper Canada in 1836. But no detailed plan, by which that object could be accomplished, was recommended to the Legislature until the presentation, in 1846, of a *Report on a System of Public Elementary Instruction for Upper Canada*, by the Chief Superintendent of Education. Practical effect was immediately given to those recommendations by the passing of a School Law—embodying the general features of the system detailed in that report—appropriating \$6,000 for furnishing suitable buildings, and an annual grant of \$6,000 for the support of the Normal School and placing it under the management of a Board of Education and the Chief Superintendent of Education.

The first attention of the Board, on its appointment in July, 1846, was directed to procuring suitable premises for the Institution; and application was made to the Government for permission to occupy the Government House of the late Province of Upper Canada, at Toronto, until proper buildings could be erected. The application was granted; and after the necessary arrangements had been completed, the Normal School for Upper Canada was opened on the 1st of November, 1847, in the presence of a large number of gentlemen from different parts of the Province.

The removal of the seat of Government from Montreal to Toronto, 1849, in consequence of the burning of the Parliament House on the passing of the "Rebellion Losses Bill," necessitated the removal of the Normal School to some other premises, and the adoption of measures for the immediate erection of

buildings for the Institution. Accordingly the Legislature at its session in 1850 appropriated \$60,000 for the purchase of a site and erection of buildings, and an additional \$40,000 in 1852—making in all \$100,000. The corner stone of the new buildings was laid on the 2nd July, 1851, by His Excellency the Earl of Elgin and Kincardine, K.T., Governor-General, in the presence of the members of the Legislature and the citizens of Toronto, and the premises were formally opened by a public meeting in the theatre of the Institution on the 24th November, 1852. On the 15th of May, 1858, the Normal School was removed into the new building on Gerrard Street, and the old apartments were applied to the purposes of an Educational Museum, and a projected School of Art and Design for Upper Canada, since formed into an Educational Museum.

The Institution consists of a Normal School and two Model Schools; the former, the school of instruction by lecture; the latter, the school of instruction by practice. The students in the former are teachers-in-training, whose ages vary from 17 to 30, while the pupils in the latter are children between the ages of 5 and 18 or 20 years. In the Normal School the teachers-in-training are instructed in the principles of education and the best methods of communicating knowledge to the youth placed under their care—are "taught how to teach;" in the Model Schools they are taught to give practical effect to those instructions, under the direction of teachers previously trained in the Normal School. The Model Schools for Boys and Girls are designed, by both the system of instruction pursued and general arrangements, to be the model for all the Public Schools of the Province.

The Institution is designed to train Public School Teachers, so as to fit them for the more efficient discharge of their varied and important duties. Though essentially a *training school*, rather than a mere school of instruction, in the ordinary sense of the term, the majority of those received as students-in-training, are so deficient in scholastic attainments, that it is found necessary to include in its course of instruction, not merely discussions on the principles of education and methods of teaching, but also the actual teaching of most, or all, the branches of Public School study. It is conceded by all who have devoted any attention to the subject, that "to teach well one must be possessed of adequate knowledge; in a word, must be well informed;" and as more than nine-tenths of those who apply for admission to the Normal School do not possess anything like that amount of information and general knowledge which the advanc-

ing spirit of the age very properly demands on the part of those who would become educators of youth, the Normal School Masters are compelled to supplement, by lectures on the different branches of study embraced in an ordinary English Education, the early training or want of training of those who enter its walls. Every lecture, therefore, given in the Normal School is delivered with a two-fold object:—

1st. To convey to the class of students-in-training a certain amount of information on the subject on which it treats; and
2nd. To give this information in such a manner, that making the necessary allowance for differences of age and attainments, it may serve as a *model* of the method in which the same subject is to be discussed before a class of children.

GENERAL REGULATIONS IN REGARD TO

THE NORMAL SCHOOL FOR THE PROVINCE OF ONTARIO, AND THE COURSE OF STUDY THEREIN.

(Adopted by the Council of Public Instruction.)

I. The sole object of the Normal School for Ontario is to prepare students for the profession of Teacher. In addition to the course of lectures on the subjects required for First and Second Class Provincial Certificates, students have the advantage of practice in the Model School under the direct supervision of the Principal and Masters of the Normal School, and the teachers of the various divisions.

II. The semi-annual sessions of the Normal School are as follows: (1) The Winter Session commences on the 8th day of January, and closes on the 15th day of June. (2) The Autumn Session commences on the 8th day of August and closes on the 22nd day of December.

[If the days of opening fall on Sunday, the Session will begin on Monday.]

III. A Normal School course—varying in length according to ability of students—with requisite practice in the Model School, and a certificate of attendance and aptitude to teach, enables a student to present himself before the Board of Examiners as a candidate for a First or Second Class Certificate, without spending in the one case *five* years, in the other *three* years in the actual teaching of a school.

IV. Applicants for admission to the Normal School, if females, must be seventeen years of age; if males, eighteen years.

V. Applications for admission accompanied with certificate of moral character, dated within three months of its presentation, signed by a clergyman or member of the religious persuasion with which the applicant is connected, must be made at the Department of Education, on the 8th day of January and of August in each year. No applications will be received, if made after the ninth day of these months.

VI. Candidates must pass the prescribed entrance examination, sign a declaration of their intention to devote themselves to the profession of school teaching, and state that their object in coming to the Normal School is to qualify themselves better for the important duties of that profession.

VII. The students are arranged in two divisions—the first and the second. The latter of these is subdivided into a junior and a senior section.

VIII. The classification in each division is based upon the entrance examination, and continued according to the result of monthly examinations, which determine the status of the students.

IX. Those students only shall be eligible to compete for First or Second Class Provincial Certificates, who shall have successfully passed a terminal examination in the subjects prescribed in the programme, and received a Normal School Certificate.

X. Upon these conditions, candidates are admitted to the advantages of the Institution without any charge, either for tuition or the use of the Library. The books which they may be required to use in the School are supplied at a reduced rate.

XI. The Teachers-in-training must lodge and board in the city, in such houses and under such regulations as are approved of by the Council of Public Instruction. The cost of board ranges from \$2 to \$3 per week.

STAFF OF TEACHERS.

NORMAL AND MODEL SCHOOLS FOR ONTARIO.

NORMAL SCHOOL.

THE REV. H. W. DAVIES, D.D.,.....PRINCIPAL.
J. CARLYLE, Esq., M.D.,.....MATHEMATICAL MASTER.
T. KIRKLAND, Esq., M.A.,.....SCIENCE-MASTER.
J. GEORGE HODGINS, Esq., LL.D.,.....SCHOOL-LAW LECTURER.
W. ARMSTRONG, Esq., C.E.,.....DRAWING-MASTER.
MR. H. F. SEFTON,.....MUSIC-MASTER.
MR. S. CLARE,.....WRITING MASTER.

MODEL SCHOOL.

MRS. CULLEN,.....HEAD-MISTRESS.
MISS JONES,.....TEACHER OF 2nd DIV.
MISS ADAMS,....." 3rd "
MR. HUGHES,.....HEAD-MASTER.
MR. SCOTT,.....TEACHER OF 2nd DIV.
MR. MCPHEDRAIN,....." 3rd "
MAJOR GOODWIN,.....TEACHER OF GYMNASIUM
AND CALISTHENICS.

I.—ENTRANCE EXAMINATION FOR SECOND DIVISION.

SUBJECTS.	The applicant must—
READING.....	Read with ease any ordinary prose passage.
SPELLING.....	Spell correctly. The written examination papers will be read with special regard to spelling.
WRITING.....	Write legibly and neatly.
ETYMOLOGY.....	Know the <i>prefixes</i> and <i>affixes</i> .
GRAMMAR.....	Know the elements and be able to parse with application of rules any prose sentence. Be able to analyze any ordinary prose passage from the Readers.
COMPOSITION.....	Write an ordinary business letter.
GEOGRAPHY.....	Know the definitions, the outlines of the physical geography of AMERICA and EUROPE; the outlines of political geography generally—that of CANADA, of AMERICA, and of EUROPE more particularly.
HISTORY.....	Know the outlines of <i>ancient</i> and <i>modern</i> , and the introductory part of History of CANADA.
ARITHMETIC.....	Be acquainted with Notation, Numeration, Simple and Compound rules, G. C. M., L. C. M., Fractions and Proportion.
MENSURATION.....	Be familiar with the mensuration of the Square, Rectangle and Triangle.
ALGEBRA.....	Be acquainted with authorized text book to page 43.

II.—COURSE OF STUDY IN JUNIOR SECTION OF SECOND DIVISION.

SUBJECTS.	
READING.....	In Fourth Book.
SPELLING.....	Dictation and oral.
WRITING.....	Under supervision of Writing-master.
ETYMOLOGY.....	Prefixes, Affixes, and principal root words.
GRAMMAR.....	The Introductory Grammar.
COMPOSITION.....	Writing official and business letters and elementary composition.
GEOGRAPHY.....	Mathematical, physical and political.
HISTORY.....	Outlines of General History.
ARITHMETIC.....	To Proportion inclusive, together with Mental Arithmetic.
MENSURATION.....	Square, rectangle and triangle.
ALGEBRA.....	To simple equations.
NAT. PHILOSOPHY...	The properties of matter. Elements of Statics.
PHYSIOLOGY.....	General view.
EUCLID.....	Book I.
EDUCATION.....	Attendance at lectures.
DRAWING.....	Elementary.
MUSIC.....	Practice in Vocal Music.

SCHOOL-LAW	With reference to Public School Teachers.
BOOK-KEEPING	By double entry.
CHEMISTRY	Elements as contained in "First Lessons in Agriculture."

III.—COURSE OF STUDY IN SENIOR SECTION OF SECOND DIVISION.

SUBJECTS.

READING	In Fifth Book.
SPELLING	As in Junior Section.
WRITING	Under supervision of Writing-master.
ETYMOLOGY	Of the more difficult words in Reading Book.
GRAMMAR	The advanced Grammar, with special reference to analysis.
COMPOSITION	On any prescribed subject.
GEOGRAPHY	Commercial geography. Elements of Meteorology.
HISTORY	British and Canadian.
ARITHMETIC	From Proportion to end of book, with practice in Mental Arithmetic.
MENSURATION	Of surfaces.
ALGEBRA	From simple equations to page 129 of authorized text-book.
NAT. PHILOSOPHY	Statics, Hydrostatics and Pneumatics.
PHYSIOLOGY	As contained in authorized text-book.
EUCLID	Book II., with problems on Books I. and II.
EDUCATION	Attendance at lectures.
DRAWING	Advanced, including construction of maps.
MUSIC	Practice in vocal, with instruction in theory.
SCHOOL-LAW	With reference to Public School Trustees.
BOOK-KEEPING	By double entry.
CHEMISTRY	As in "First Lessons in Agriculture," and its application to Agriculture.
CHEMICAL PHYSICS	Heat.
NAT. HISTORY	General view of Animal kingdom.
BOTANY	As in "First Lessons in Agriculture." Elements of Vegetable Physiology.

IV.—ENTRANCE EXAMINATION FOR FIRST DIVISION.

SUBJECTS.

READING	As for entrance into second division.
SPELLING	" " " "
ETYMOLOGY	" " " " together with a knowledge of the principal Latin and Greek roots, and a fair ability to analyze etymologically.
GRAMMAR	Thorough acquaintance with definitions and forms; and ability to parse etymologically and syntactically, and to analyze any ordinary piece of English.
COMPOSITION	A letter or a composition upon any given subject.
WRITING	Neat and legible.
GEOGRAPHY	Mathematical, physical, political and commercial, including the forms of Government, Religion, &c., of the principal countries in the world.
HISTORY	General, English and Canadian.
ARITHMETIC	Authorized text-book in theory and practice.
MENSURATION	Of surfaces.
ALGEBRA	As far as page 129 in authorized text-book.
EUCLID	Books I. and II., with problems.
NAT. PHILOSOPHY	Statics, Hydrostatics, and Pneumatics.
CHEMISTRY	As in "First Lessons in Agriculture," and its application to Agriculture.
BOTANY	As in "First Lessons in Agriculture," and elements of Vegetable Physiology.

V.—COURSE OF STUDY IN FIRST DIVISION.

SUBJECTS.

READING	Sixth Book—prose and verse.
SPELLING	To dictation.

WRITING	Under supervision of Writing-master.
ETYMOLOGY	More fully pursued than in 2nd division.
GRAMMAR	Advanced Grammar, with special reference to analysis, figures, and comparative grammar.
COMPOSITION	As in 2nd division Senior section.
ENG. LITERATURE	Authorized text-book.
GEOGRAPHY	Previous course reviewed. Elements of Geology.
HISTORY	Philosophy of History.
EDUCATION	Attendance at lectures.
SCHOOL-LAW	With reference to Municipal Councils and Public School Inspectors.
MUSIC	Theory and practice.
DRAWING	Perspective and outline in books and on blackboard.
BOOK-KEEPING	By double entry.
ARITHMETIC	General.
MENSURATION	Surfaces and solids.
ALGEBRA	General.
EUCLID	Books III., IV., VI., with definitions of V. and problems.
NAT. PHILOSOPHY	Statics and Dynamics, treated mathematically, Hydrodynamics and Acoustics.
CHEMICAL PHYSICS	Light and Electricity.
CHEMISTRY	General principles of chemical philosophy; chemistry of Metalloids; chemistry applied to agriculture and the arts.
PHYSIOLOGY	As in text-book.
NAT. HISTORY	General view of the animal kingdom; character of the principal orders, classes and genera.
BOTANY	Previous course reviewed. Systematic Botany; flowering plants of Canada.

TEXT-BOOKS.

FOR USE IN THE NORMAL SCHOOL OF ONTARIO.

(Prescribed by the Council of Public Instruction, and supplied to Students at half price.)

1. ENGLISH.

The Canadian National Series of Reading Books. (Authorized edition.)
 The Spelling Book, A Companion to the Readers. (Authorized edition.)
 Miller's Analytical and Practical English Grammar. (Authorized edition.)
 An English Grammar for Junior Classes. By the Rev. H. W. Davies, D.D. (Authorized edition.)
 A History of English Literature, in a Series of Biographical Sketches. By William Francis Collier, LL.D.

II. ARITHMETIC AND MATHEMATICS.

Advanced Arithmetic for Canadian Schools. By Barnard Smith, M.A., and Archibald McMurchy, M.A. (Authorized edition.)
 Elementary Arithmetic for Canadian Schools. By Barnard Smith, M.A., and Archibald McMurchy, M.A. (Authorized edition.)
 Algebra for High Schools. By I. Todhunter, M.A., F.R.
 Elements of Algebra. By J. H. Sangster, M.A., M.D.
 Euclid's Elements of Geometry. By R. Potts, M.A., or Todhunter, M. A.

III. GEOGRAPHY AND HISTORY.

Lovell's General Geography. By J. George Hodgins, L.L.D. Barrister-at-Law. (Authorized edition.)
 Geography Generalized. By Robert Sullivan, L.L.D., Barrister-at-Law.
 A History of Canada and of the other British Provinces of North America. By J. George Hodgins, LL.D., Barrister-at-Law.
 Outlines of General History. By William Francis Collier, LL.D.

School History of British Empire. By William Francis Collier, L.L.D.

IV. PHYSICAL SCIENCE.

Lessons in Elementary Chemistry. By H. E. Roscoe, B.A., F.R.S.

Galbraith and Haughton's Manual of Mechanics. For First Division.

Rudimentary Mechanics. By Charles Tomlinson.

Ganot's Natural Philosophy. Ed. by Peck.

The Animal Kingdom. By Ellis A. Davidson.

How Plants grow. By Asa Gray, M.D.

V. MISCELLANEOUS.

First Lessons in Agriculture. By Rev. Dr. Ryerson.

Easy Lessons on Reasoning. By Archbishop Whately.

First Lessons on Christian Morals. By Rev. Dr. Ryerson.

First Book on Anatomy. By Calvin Cutter, M.D.

Three-Part Songs. By H. F. Sefton.

Manual of Vocal Music. By H. F. Sefton.

Mensuration. By J. H. Sangster, M.A., M.D.

Book-keeping. By W. R. Orr.

THE SCHOOL SYSTEM OF ONTARIO AND THE CHURCH OF ENGLAND BISHOPS.

From the Address to the Synod of the Diocese of Toronto, by the Right Reverend Bishop Bethune, June, 1872.

Speaking of the increasing spread of evil, and of the duty of the Church, under her Divine Master, to cope with it, the Bishop remarked:

"Her work is, confessedly, to lead fallen man to the true source of pardon, and to teach him to aim at the recovery of the moral image in which he was at first created. If the passions, and prejudices, and divisions of professing Christians themselves are a distressing hindrance to the attainment of this noble and dutiful aspiration, we have much in the condition of the world around us to warn and rouse us to a vigorous and united effort to arrest the increasing tide of sin and crime. The developments of a grossly evil spirit at the present day fill us with horror and alarm; the profligacy and wanton cruelty of which we hear so many instances, make us tremble for our social peace and safety.

"It is but right to enquire to what all this enormity of wickedness is traceable, that we may come if possible to the remedy. That is largely to be ascribed, as all must be persuaded, to the neglect of religious instruction in early life; to the contentment of peoples and Governments to afford a shallow secular education, without the learning of religious truth, or the moral obligations that it teaches. The child taught and trained for this world's vocations only, without a deep inculcation of the love and fear of God, and the penalty hereafter of an irreligious and wicked life, will have but one leading idea—self-aggrandizement and self-indulgence, and will be checked by no restraint of conscience in the way and means of securing them. Gigantic frauds will be perpetrated, if riches can thus be acquired; atrocious murders will be committed, if these will remove the barrier to unholy and polluting connections, or cast out of sight the objects of jealousy and hatred.

"I have no disposition to reprobate this defect in the system of education, prevailing with the authority and support of Government among ourselves. I know the difficulty, the almost impossibility, of securing the temporal boon with the addition of the spiritual; how hard it must prove in a divided religious community to introduce among the secular lessons which are meant for usefulness and advancement in this world, that lofty and holy teaching which trains the soul for heaven. The irreverent and fierce assaults recently made upon a praiseworthy effort of the Superintendent of Education in this Province to introduce a special work for moral and religious instruction amongst our common school pupils, testify too plainly the difficulty of supplying that want. (Cheers.)

"I have confidence in the good intentions and righteous efforts of that venerable gentleman to do what he can for the amelioration of the evils which the absence of systematic religious teaching of the young must induce; so that we may have a hope that, from his tried zeal and unquestionable ability, a way may be devised by which such essential instruction shall be imparted, and the terrible evils we deplore to some extent corrected." (Cheers.)

In response to this portion of his address, the Rev. Dr. Ryerson addressed the following note to the Bishop. The note and the Bishop's reply are published with the consent of the writers:—

Toronto, July 1st, 1872.

MY DEAR LORD BISHOP:—

I feel it my bounden, and at the same time most pleasurable duty, to thank you with all my heart for your more than kind reference to myself in your official charge at the opening of the recent Synod of the Diocese of Toronto; and especially do I feel grateful and gratified for your formal and hearty recognition of the Christian character of our Public School System, and of the efforts which have been made to render that character a practical reality, and not a mere dead and heartless form.

It has also been peculiarly gratifying to me to learn that your lordship's allusions to myself and the school system were very generally and cordially cheered by the members of the Synod.

My own humble efforts to invest our school system with a Christian character and spirit have been seconded from the beginning by the cordial and unanimous co-operation of the Council of Public Instruction; and without that co-operation my own individual efforts would have availed but little.

Since the settlement of the common relationship of all religious persuasions to the State, there is a common patriotic ground for the exertions of all, without the slightest reasonable pretext for political jealousy or hostility on the part of any. On such ground of comprehensiveness, and of avowed Christian principles, I have endeavoured to construct our Public School System; such, and such only has been my aim in the teachings of my little book on Christian Morals; and such only was the aim and spirit of the Council of Public Instruction in the recommendation of it,—a recommendation to which the Council inflexibly adheres, and which it has cordially and decidedly vindicated.

I have the honour to be

Your Lordship's humble and obliged servant,

E. RYERSON.

To the Right Reverend Dr. Bethune,
Lord Bishop of Toronto.

Toronto, July 3, 1872.

MY DEAR DR. RYERSON,—I have to thank you for your letter of the 1st instant, received last evening, and to express my gratification that I had the opportunity to bear my humble testimony to your zealous and righteous efforts to promote the sound education of the youth of this Province.

I believe that in the endeavours to give this a moral and religious direction, you have done all that, in the circumstances of the country, it was in your power to accomplish. I was glad, too, to give utterance to my protest against the shameless endeavours to hold up to public scorn the valuable little work by which you desired to give a moral and religious tone to the instruction communicated in our Common Schools. If more can be done in this direction, I feel assured you would assume any reasonable amount of responsibility in the endeavour to effect it.

Wishing you many years of health and usefulness, I remain, dear Dr. Ryerson, very faithfully yours,

A. N. Toronto.

Rev. Dr. Ryerson, D. D.

NOTE.—This correspondence affords a striking instance of the fact that the very earnest discussions between the writers of these notes in past years, have not diminished in any way the personal respect and kindly feeling which happily exists between them. And it was so with the late venerable Bishop Strachan, with whom Dr. Ryerson more than once measured swords in days gone by. Among his very latest utterances on the Separate School Question in the Synod in 1856 he thus referred to the Head of the Education Department and his labours:—

"One new feature, which I consider of great value, and for which I believe we are altogether indebted to the able Superintendent, deserves special notice: it is the introduction of daily prayers. We find that 454 [3,246 in 1870] schools open and close with prayer. This is an important step in the right direction, and only requires a reasonable extension to render the system in its interior, as it is already in its exterior, nearly complete. But till it receives this necessary extension, the whole system, in a religious and spiritual view, may be considered almost entirely dead. [The increase from 454 in 1856 to 3,246 in 1870, would have gratified the venerable prelate had he lived.]

I do not say that this is the opinion of the Rev. Dr. Ryerson, who no doubt believes his system very nearly perfect; and so far as he is concerned, I am one of those who appreciate very highly his exertions, his unwearied assiduity, and his administrative capacity. I am also most willing to admit that he has carried out the meagre provisions of the several enactments that have any leaning to religion, as far as seems consistent with a just interpretation of the law. *Charges of 1856, pp. 15, 16.*

DR. RYERSON AND THE SCHOOL SYSTEM OF ONTARIO.

Dr. Ryerson was appointed Superintendent of Education for Ontario in 1844, and for twenty-eight years in succession he has held that office, labouring faithfully and efficiently in the cause of public education in that province. The gratifying results that have been reached there are largely due to his untiring efforts. The last legislature abolished the rate-bills, and the public schools are to be henceforth free to all residents between the ages of 5 and 21 years. The entire school population between the ages of 5 and 16 years is 483,966, and the number of pupils between those ages attending school is 420,488, or nearly 87 per cent. This speaks well for the efficiency of the system. The salaries of teachers are low, but there is a fund from which those who wear themselves out in the service may obtain assistance. The average yearly salary of male teachers in counties is \$260, of female teachers, \$187; in cities, of male teachers, \$597, of female teachers, \$231. We notice some excellent provisions of the law relating to school accommodations: as, that the site for the school-house shall be not less than half an acre in extent, and that the walls of the school-house shall not be less than ten feet high in the clear, and shall contain not less than nine square feet on the floor for each child in attendance, and shall be sufficiently warmed and ventilated, and the premises properly drained. The public money may be withheld from those districts failing to comply with these regulations. Free public libraries also constitute a valuable feature in their system. The total number of these libraries in Ontario is 3,968, containing 759,358 volumes.—The school system of Ontario, as set forth in the report of Dr. Ryerson, from which the above items have been gleaned, has much that is worthy of approval and imitation.—*Illinois Teacher.*

CIRCULAR TO THE BOARDS OF TRUSTEES OF HIGH SCHOOLS, AND INSPECTORS OF PUBLIC SCHOOLS, IN THE PROVINCE OF ONTARIO.

EDUCATION OFFICE, Toronto, 3rd August, 1872.

GENTLEMEN: In my circular of the 13th of August of last year, which I addressed to Boards of High School, I called attention to the provisions of the new Law in regard to the admission of pupils to the High Schools, as follows:—

"Hitherto the Grammar Schools have been considered as almost exclusively Classical Schools, and the programme of studies for them was chiefly formed with that view; but under the new Act, it is especially provided that they shall be High English Schools as well as Elementary Classical Schools, and for girls as well as for boys. When it is provided in the Act that in each High School, provision shall be made for teaching to both male and female pupils the higher branches of an English and Commercial Education, including the Natural Sciences, with special reference to Agriculture, it was clearly intended that the lower or elementary branches of an English Education should not be taught in the High Schools, but in the Public Schools. It was also intended that all pupils to be eligible for admission to the High Schools for the study of classics, as well as for higher English, must first be grounded in the elements of a sound education in their own native language, as strongly urged by the latest Royal and Parliamentary Commissions on Education in England, but strangely overlooked hitherto, as little boys six and seven years of age have been put to the study of ancient and foreign languages, and left to grow up to manhood without ever having been formally taught their native tongue, or the essential elements of a practical English education. This anomaly is provided against by the new Act in the future education of Canadian youth, at least so far as the Public High Schools are concerned." Accordingly the 38th Section of the new Act, which became law on the 15th of last February, provided as follows:—

ADMISSION OF PUPILS TO HIGH SCHOOLS.—"38. The County, City or Town Inspector of Schools, the Chairman of the High School Board and the head master of the High School shall constitute a Board of Examiners for the admission of pupils to the High School according to the regulations and programme of examination provided according to law; and it shall be the duty of the Inspector of High Schools to see that such regulations are duly observed in the admission of pupils to the High Schools; Provided nevertheless, that the pupils already admitted as Grammar School pupils according to law, shall be held eligible without further examination for admission as pupils of the High Schools; And provided furthermore, that pupils from any part of the county in which a High School is or may be established shall be admitted to such school on the same terms as pupils within the town or village of such school."

"In accordance with this provision of the Act, the Council of

"Public Instruction has prescribed, that 'the subjects of examinations for admission to the High Schools shall be the same as those prescribed for the first four classes of the Public Schools.' The examinations for admission to the High School must be on paper, and the examination papers with the answers are to be preserved for the examination of the High School Inspector, that he may not depend wholly on the individual examination of pupils as to whether the regulations have been duly observed in the examination and admission of pupils."

3. As it has been found on experience that great diversity exists, not only in the mode of examination, but in the standard to be reached by the candidates for admission, the Council of Public Instruction has thought it desirable, in order to remedy these defects, to request the High School Inspectors to prepare a series of printed questions to be answered by the candidates for admission to each High School.

4. The accompanying General Regulations for conducting the examination of candidates for admission to the High Schools, fully explain the manner in which these examinations shall be conducted. I therefore refer you to them.

I would conclude this circular by reminding you again of the province of High Schools as a part of our system of Public Instruction; and I cannot better do so than in the words employed by the Council of Public Instruction, in the explanatory memorandum, prefatory to the programme of the course of studies for the High Schools.

"The fundamental principle of our system of Public Instruction is, that every youth before proceeding to the subjects of a higher English or of a classical education, shall first be grounded in the elementary subjects of a Public School education. No candidates are, therefore, eligible for admission to the High Schools except those who have manifested proficiency in the subjects of the first four classes of the Public School programme, by passing a satisfactory examination."

"The objects and duties of the High School are two fold:

"First, commencing with pupils who (whether educated in either a public or private school) are qualified as above, the High Schools are intended to complete a good English education, by educating pupils not only for commercial, manufacturing and agricultural pursuits, but for fulfilling with efficiency, honour and usefulness, the duties of Municipal Councillors, Legislators, and various public offices in the service of the country."

"The Second object and duty of the High Schools (commencing also with pupils qualified as above,) is to teach the languages of Greece and Rome, of Germany and France, the Mathematics, &c., so far as to prepare youth for certain professions, and especially for the Universities, where will be completed the education of men for the learned professions, and for Professorships in the Colleges, and Masterhips in the Collegiate Institutes and High Schools."

Instructions as to the time at which it is desirable to hold the examination will be shortly issued.

I have the honour to be,

Gentlemen,

Your obedient servant and fellow-labourer,

E. RYERSON.

REGULATIONS FOR THE ADMISSION OF PUPILS TO HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

1. *Admission of Pupils.*—The School Law of 1871, sect. 38 provides that "The County, City or Town Inspector of Schools, the Chairman of the High School Board and the head master of the High School shall constitute a Board of Examiners for the admission of pupils to the High School according to the regulations and programme of examination provided according to law; and it shall be the duty of the Inspector of High Schools to see that such regulations are duly observed in the admission of pupils to the High Schools; Provided nevertheless, that the pupils already admitted as Grammar School pupils according to law, shall be held eligible without further examination for admission as pupils of the High Schools; And provided furthermore, that pupils from any part of the county in which a High School is or may be established shall be admitted to such school on the same terms as pupils within the town or village of such school."

2. *Duties of Inspectors.*—The Inspector shall receive and be responsible for the safe keeping, unopened, of the examination papers, until the day of examination. He shall also, at the close of the examination of candidates for admission, submit the answers of candidates to the Board for examination and report; but under no circumstances shall a certificate of admission be awarded to any candidate until the report on his answers shall have been considered and approved by a majority of the Board, including the Inspector.

3. *Viva voce and Special Examinations in Reading.*—The Board of Examiners shall subject the candidates to *viva voce* examination in reading, of the result of which a record shall be made.

4. Each Examiner, by his acceptance of office, binds himself in honour to give no information to candidates, directly or indirectly, by which the examination of that candidate might be affected.

5. *Time and place of each Examination.*—The examination of candidates for admission to the High School, or Collegiate Institute, shall be held in such place as may be agreed upon by the Examiners.

6. *Proceedings at each Examination.*—The Inspector shall preside at the opening of the examination; and, at nine o'clock on the morning of the first day, in the presence of such of his colleagues as may be there, and of the candidates, he shall break the seal of the package of examination papers received for that examination, from the Education Department. He shall also break open the seal of each additional packet of examination papers as required in the presence of a co-examiner and of the candidates. He shall further see that at least one examiner is present during the whole time of the examination, in each room occupied by the candidates. He shall, if desirable, appoint one or more of his co-examiners (1) to preside at the examination in any of the subjects named in the programme: (2) to read and report upon the answers as they are received.

7. The examination, except in reading, shall be conducted wholly on paper;

8. The candidates, in preparing their answers, will write only on one page of each sheet. They will also write their names on each sheet, and, having arranged their papers in the order of the questions, will fold them once across and write on the outside sheet their names. After the papers are once handed in, the Examiners will not allow any alteration thereof, and the presiding Inspector is responsible for the subsequent safe-keeping of the same, until he has handed them to the High School Inspector.

9. The presiding Inspector or Examiner must be punctual to the moment in distributing the papers, and in directing the candidates to sign their papers at the close of the allotted time. No writing, other than the signature, should be permitted after the order to sign is given. The candidates are required to be in their allotted places in the room before the hour appointed for the commencement of the examination. If a candidate be not present till after the commencement of the examinations, he cannot be allowed any additional time on account of such absence.

10. In examining the answers of candidates, it is desirable that at least two Examiners should look over each paper.

11. The Department will, on the margin of the questions, assign numerical values to each question or part of a question, according to their judgment of its relative importance. The local Examiners will give marks for the answers to any question in correspondence with the number assigned to the question, and the completeness and accuracy of the answers.

12. In order that a candidate may obtain admission to the High School, or Collegiate Institute, the sum of his marks must amount to at least seventy-five per cent. of the assigned value of the answers given in margin of the examination questions.

13. The names of successful candidates shall be arranged alphabetically.

14. In the event of a candidate copying from another, or allowing another to copy from him, or taking into the room any book, notes, or anything from which he might derive assistance in the examination, it shall be the duty of the presiding Examiner, if he obtain clear evidence of the fact at the time of its occurrence, to cause such candidate at once to leave the room; neither shall such candidate be permitted to enter during the remaining part of the examination, and his name shall be struck off the list. If, however, the evidence of such case be not clear at the time, or be obtained after the conclusion of the examination, the Examiners shall report the case at a general meeting of the Examiners, who shall reject the candidate if they deem the evidence conclusive.

15. The subjects of examination for admission to the High Schools, or Collegiate Institutes, shall be the same as those prescribed for the first four classes of the Public Schools, and the examination papers on those subjects shall be prepared by the High School Inspectors. The examinations for admission to the High School must be on paper, and the examination papers with the answers are to be preserved for the examination of the High School Inspector, that he may not depend wholly on the individual examination of pupils as to whether the regulations have been duly observed in the examination and admission of pupils.

16. Although pupils are eligible for promotion from the Public to the High Schools, after passing a satisfactory examination in the first four classes of the former, it is quite at the option of the parents or guardians of pupils, whether they shall enter the High

School or not before they complete the whole programme of studies in the Public Schools, when they can then enter an advanced class in the High School.

17. All candidates passing a satisfactory examination before the local Board, shall receive from it a certificate of eligibility for admission, and shall be temporarily admitted by the Head Master. But their attendance will not be credited to the school should the Inspector of High Schools disapprove of their admission.

18. The High School Board will provide the stationery required for conducting the examinations.—(See page 96.)

I. Biographical Sketches.

HON. JOHN SANDFIELD MACDONALD, M.P.

Descended from an old Scottish Highland family settled there for half-a-century or more, Mr. Macdonald was born in the County of Glengarry, on the 12th of December, 1812. He was, consequently, in his 60th year at the time of his death. His younger days possessed a spice of romance. Early chafing under the restraints of paternal control he made several ineffectual attempts to escape from home. A brief experience of store life in the country sickened him of that calling, and he readily yielded to the solicitations of a resident lawyer to give more attention to study and become a member of the same profession as himself. At the age of 20 he went to school with the well-known teacher Dr. Urquhart. Two years after he was admitted a member of the Law Society of Upper Canada, studying successively with Mr. (afterwards Judge) McLean and Mr. (now President of the Court of Appeal) Draper. In June of the year 1840 he was called to the Bar, and immediately obtained a large practice in the town or Cornwall and the surrounding country. His connexion with his law business he never closed; and unlike many lawyers who have become members of Parliament he amassed a considerable fortune; in no small degree obtained from the mercantile community of Montreal, who had the utmost confidence in him throughout his life—a confidence which was never betrayed, but which, on the contrary, was the means of cementing friendships of the strongest possible kind.

When he died, he was the oldest member of the Canadian Parliament, having been first elected in 1841. Since he entered on his public career, he had seen a total change in the system of government, the attempt to rule the country by instructions from Downing Street abandoned; a Legislative union of the two Canadas formed, and superseded by a federal union, embracing all British territory on the continent. When he first became a member of the Legislature, Lord Sydenham was governor during the first session in which Mr. Macdonald held a seat in the Legislature, a vigorous protest was made against this system of governing by instructions from Downing Street. The Legislature, in formal resolutions, claimed the right to exercise a constitutional influence over the executive on all questions of internal government; also that the advisers of the Sovereign's representative should preserve the confidence of the representatives of the people. The initiative of these resolutions came from Mr. Baldwin, and the principles they avowed, accepted reluctantly by Lord Sydenham; the resolutions were modified by a member of the Government so as to take the shape indicated. In this school Mr. Macdonald received his first practical lessons in constitutional government. The position he occupied in the first session when he sat in the Legislature was no bad illustration of that independent character which marks his whole public career. He had been elected as an opposition member; elected by a constituency (Glengarry) that was conservative from its entire adherence to the crown during the recent rebellion, when every thing had been reduced to a question of loyalty; he sympathized with the French on account of the violence which had been used against some of them at the elections, and their exclusion from Lord Sydenham's united government. The Upper Canada Conservatives coalesced with the Lower Canada French; and Mr. Macdonald as an opposition member, was known among them, but he entered into no confidence with them; attended no party meetings; merely did what he conceived to be his duty in the House, voting as he thought right and proper. Two years later, the principle of responsible government was not yet so fully established as to be beyond successful assault. Lord Sydenham had succumbed to over-work and disease; Sir Charles Bagot, his successor, had gone to the grave; and Sir Charles Metcalfe, who had come from a bad school, provoked the administration, at the head of which were Lafontaine and Baldwin, to resign; which event took place in November 1843. Mr. Macdonald unhesitatingly embraced the cause of the late ministers; on that issue, he appealed to the electors of Glengarry, and was returned by an

increased majority. Continuing to sit for his old constituency, Mr. Macdonald became Solicitor-general in 1849; having for chiefs of administration, Mr. Louis H. Lefontaine and Mr. Robert Baldwin, whom the current of public opinion had again carried into power in 1848. In 1851 Mr. Baldwin resigned office; and the premiership fell into the hands of Mr. Hincks, by whom Mr. Macdonald was offered the position of the Crown Lands. He declined the offer, being resolved to take no office out of his profession. His aim was the Attorney-generalship; and that, too, he was destined to receive in good time. The year after he had refused the Crown Lands he was elected Speaker, in which position he continued till the dissolution 1854. The dissolution resulted from a defeat of the Government on the Address, and as Parliament had only been called on the last day allowed by law, it was dissolved without passing any Act. Mr. Macdonald, as Speaker, presented an address to the Governor-General, calling attention to this fact, and stating that unless an Act were passed it was no session, and that the dissolution prevented the Legislature from complying with the law. Mr. Macdonald was probably right as to the law; but necessity has no law, and a dissolution was deemed necessary.

In 1858, he was Attorney-General for a few days in the Brown-Dorion Government. He afterwards separated from the chief of that Government on a question of fact relating to a subject of important public policy, the Seigneurial Tenure abolition. There was a truce for a while, after Mr. Macdonald had become Premier and Attorney-General in May, 1862. He was able to hold office on the strength of a very slender majority, till March, 1864, nearly two years. He attained office on a question connected with the Militia organization; opposing the measure of the Ministry of the day, chiefly on the ground of the expense it would entail.

When the future historian of Canada comes to the Confederation era of political change he will admit that the choice of Mr. Macdonald as the first Premier of Ontario was a wise one, and that he amply justified the preference given to him on that occasion. Party strife had been hushed in 1864; there was every reason why it should not be renewed in 1867. Only the foundation of Confederacy had been laid; it was for wise master-builders to rear the superstructure. Mr. Macdonald, fully appreciating the situation, refused to yield to the persuasions and pressure brought to bear upon him to make his Cabinet a strictly party one. Confederation, he contended, had been brought about by a fusion of parties; a fusion of parties he would continue. Carrying out this design he called two Conservatives to his Cabinet, and thereby incurred displeasures which were intensified into bitter animosities that were not once relaxed during his four years of administration.

The history of his government, however severely criticized at the time for partizan effect, is one of which any public man might feel proud. Every encouragement was given to settle the waste lands of the Province. Immigration received an impetus which largely increased the influx of the surplus population of the Old World. Improvements were made in the machinery of the law. Legitimate railway enterprises were encouraged by generous subventions from the public purse. In truth, it may be safely said, there was no wrong which was not righted; no want which was not supplied. A large majority enabled the Government to carry measures which will have a lasting effect in the Province.

Failing to receive the support he expected in the new House elected in the spring of 1871, he retired from office and virtually from public life, on the installation of the new Government. Socially, Mr. Macdonald had not many like him in the political world of Canada. Possessed of a ready wit, a most retentive memory, and a keen appreciation of the ludicrous, he was always a chief spirit in every gathering not essentially of a public kind. He was fond of society—not fashionable society, merely—although with an outward air of seeming carelessness, he had strong aristocratic leanings—but of society which added a relish to the more serious duties of life. His private means enabled him to entertain largely, and he did so in a generous manner, as one who took real pleasure in seeing his friends around him. Distinguished in private life by the largest-hearted hospitality, Mr. Macdonald counted his personal friends by hundreds. Whether it was that the military were quartered at Cornwall, as at the time of the Fenian Raid, or a gunboat was anchored in the stream, or Assizes were going on in the town, Ivy Hall was open house. One of the last remarks he made was to remind his family that his friends Mr. George Stephen, Sir Hugh Allan, Mr. E. H. King and Mr. Donald McInnes were expected that day to visit the manufacturing establishment about to be erected at Cornwall, and must be invited to luncheon. His friends were there, but only to learn the mournful news that Mr. Macdonald's life was fast flickering out. He died very quietly, being perfectly clear and conscious to the end.—*Mail*.

MR. ROBERT MACFARLANE, M. P.

Was born at Williamstown, Glengarry, in 1835, and after receiving his education in Perth and Toronto, was called to the Bar of Upper Canada in Michaelmas term, 1857. He sat for Perth in the Canadian Assembly from the general election in 1863 until the Union, after unsuccessfully contesting the seat in 1862. Mr. Macfarlane was a popular man in the House, although he never took a prominent part in debate.—*Mail*.

OLD SCHOOL REMEMBRANCES OF BROCKVILLE.

The following interesting notice was sent us by an old resident of Brockville, now a resident of the United States, on the renewal of his subscription:—I like to see the *Recorder*, as it brings to mind some of the old times when I was a boy and fished in St. Lawrence's clear, beautiful pure water.

I was born in Brockville about one year after the first Sabbath school was organized.

I have a sharp recollection of attending school there when I was about 14 years of age, and of a tingling sensation to the ends of my fingers when I think of the *Master*. He was a true representative of the Irish Hedge School-master. His name was Rossington Elms, and although forty-five years or more have come and gone since then, still I remember many of the boys that were boys at that time and attended school with me. I have not been in Brockville since 1827, I crossed the lake from Brockville to Rochester in the steamer *Ontario* in about 4 days, which was then considered rather fast travelling. We had to cross from Brockville to Morristown in the ferry boat, as no steam boat stopped at Brockville, from this side, to take passengers.

Perhaps it may be interesting to you to know the boys that got thrashed in that school.

Ormond Stewart, Hoyle Jones, Wm. and Stephen Richards, Wm. O. Buell, Louis Charlien, Robert Hamilton, Billa Flint, Henry Easton, Johnny Ross, Geo. Provost, Isaac Read, James Reid, P. Glassford, James Gray, Tommy Scott, Cris. Leggo, Hubbell boys, E. Dunham, Wells, Landon and many others. A. S. B.

To the Editor of the Recorder.

The "old resident of Brockville" who sent you the interesting notice published in your last paper is mistaken as to some of the parties who attended the Johnstown District Grammar School, and he is equally mistaken as to its master, the late Rev. Rossington Elms. An Irish hedge school master, as I understand the class, was a man with the social habits, manners and dress of the peasantry, had their brogue in ordinary conversation, and used their language. But he had an admirable appreciation of the beauty of the classics, and frequently attained such critical and exact knowledge of them as would put to shame the graduates of universities.

Mr. Elms had no brogue, spoke English correctly, and no one could detect his being an Irishman from his language or appearance, and he had the dress, manners and social habits of an educated gentleman. Whether he received his education in Ireland or in this country, I am unable to say, but Judge Steele, your present County Judge, who, I think, was connected in some way with the Elms family, will know. He may have completed his education under Dr. Strachan at the York Grammar School. He certainly was usher there for some time before he was appointed master of the Johnstown District School. Though somewhat severe as a disciplinarian, and using the rod without stint, if boys neglected to learn their lessons, he was an admirable teacher, and the system of teaching practised by him was well calculated to make his pupils apt and intelligent scholars. A good test of his capacity as a teacher, judging from results, was that no boy who went up from the District of Johnstown Grammar School, whilst he was the master, to pass the Law Society, was plucked. After leaving Canada, he resumed his profession as a teacher in the State of Indiana, and died there within the last ten or twelve years. Shortly after his death, his pupils there met and passed highly eulogistic resolutions as to his acquirements as a scholar and skill as a teacher.

The names of the three brothers he first refers to were in the order of their ages, Stewart, Okill, and Ormond Jones. The eldest became a barrister-at-law, and died many years ago at London, in Upper Canada. Okill had the Furnace Falls mills and property, which he managed for some few years, and died in Brockville, I think at his brother Ormond's house. Ormond, your readers know, is still living, and is the Registrar for the County of Leeds. The present Chief Justice Richards was for several years a pupil of the school, and continued to attend it until Mr. Elms resigned the situation. He was succeeded for a short time by the Rev. Mr. Padfield, who I believe is now living at Burford. Hon. Stephen Richards, Q. C., did not attend the Grammar School whilst Mr. Elms was

master of it. William O. Buell certainly did not, but Adiel S. Buell, nephew of the Sheriff, after whom he was called, and son of the late William Buell, of Rochester, did attend for a short time.

Billa Flint, Henry Easton, George Provost and Isaac Read, were never, I think, pupils of *Master Elms*, Louis Charland, nephew of David and Sir Daniel Jones was the most promising boy in the school, and he was never flogged to my recollection. He died young, about the year 1832, I should say, of consumption. If he had lived he would have taken a prominent part in the affairs of this country. Even in 1830, when quite young, he was very active in supporting the late James Grey, as a candidate for Brockville, against the late Henry Jones, Esq., who was the first member elected to serve in the Provincial Parliament for the Town of Brockville. It was said his health was undermined by his close attention to the business of the Registry office; his uncle, the late Sir Daniel Jones, having made him Deputy Registrar. John Ross, you knew, he was the Hon. John Ross, who died a year ago last winter in Toronto. James Read was the son of the late J. L. Read, of Merrickville, he died many years ago at Chatham, Upper Canada. The Glassford he refers to was George Glassford, the present Deputy Registrar of the County of Leeds. The Gray mentioned was Frank Gray, step-son of the late James Gray, he died in this town somewhere about the year 1850. Tommy Scott, should have been James Scott, he died a few years ago at Port Hope, where he was a practising lawyer. Christopher Leggo is Dr. Leggo of the city of Ottawa. E. Dunham should be Dr. George Dunham of Newboro'. The Hubbell boys were James Hubbell, Esq., now living at Hubbell's Falls, near Pakenham, and his elder brother Jones Hubbell, who died many years ago. Wells is the present Judge Wells, of Chatham, Ont. Landon was, I believe, a son of the late Heman Landon, Esq., of Augusta, he is now dead.

Amongst other pupils at the old Grammar School, were the present Archdeacon Patton, now of Belleville, Judge Sherwood, of Belleville, the late Judge Smart of the same place, the late Judge Friel, of L'Orignal, the late John Bogart, who died about 1843 or 1844. There were many others, also, whose names I do not at present recall. Robert Hamilton was, I think, a son of a gentleman of the same name who resided at Queenstown, and was interested in the steamers *Queenstown* and *Frontenac*.

I remember the old steamer *Ontario*, to which your correspondent refers. She was at one time owned by the late Eri Lusher, who kept a tavern in Ogdensburg, and towards the close of his life in Brockville, he died here shortly after the rebellion. The *Ontario* was advertised to make a trip for the head of the lake once a fortnight, wind and weather permitting. The old *Charlotte*, owned by Captain Gildersleeve, of Kingston, who died in 1850, used to make the trip to the Carrying Place once a week, wind and weather permitting. The *Sir James Kempt* succeeded the old *Charlotte* on the same route, and was a great improvement on her predecessor in speed. The *Dalhousie*, a small boat, ran from Kingston to Prescott, carrying the mail. She went up one day and returned the following day, Sundays excepted. The *Queenstown* made a trip once a week from Prescott to Queenstown. She was commanded by the late Captain Whitney, known to many of your older readers. The *Great Britain* was built at Prescott, and it was said that the earnings of the *Queenstown* on her weekly trip paid off the men who worked on the *Great Britain* every week. The *William the Fourth* was built in Gananoque, in 1831 and 1832. She was an improvement on the other boats for speed. After she and the *Great Britain* were built under the treaty between Great Britain and the United States, our steamers and vessels were at liberty to carry freight and passengers from a British to an American port, so long as they did not coast, and the American ships had the same privileges in our ports. The *Great Britain* and *William the Fourth* in their trips touched at Oswego, and went to Niagara as well as to Hamilton. They made weekly trips.

A few years after that, a superior class of vessels was constructed, such as the *City of Toronto*, the *Princess Royal*, and the *Sovereign*. These vessels formed a daily line from Kingston to Toronto, and did not cross the lake. Three of them formed a daily line between these places, and sometimes two boats would keep up the line. This was thought to be a wonderful advance from one trip a week, but now we go to Toronto by rail in ten hours and grumble if we are ten minutes behind time in arriving there.

Soon we shall be able to take a railway carriage and go, without change of car, to Halifax, on the East or to Vancouver Island on the West. This is a world of progress, and Canada advances, notwithstanding our neighbours think we are slow and unenterprising. Your correspondent ought to come down and see the progress that has been made in his native town. He can find

"The school boy spot
We ne'er forgot though there we are forgot."

but the Gaol Yard covers part of the spot where the old school house stood, yet on enquiry he will find the old building itself converted into a small dwelling at the corner of Home and Water streets.

AN OLD GRAMMAR SCHOOL BOY.

Brockville, July 19, 1872.

ELLIS A. DAVIDSON'S ANIMAL KINGDOM.

AUTHORIZED TEXT BOOK IN ONTARIO.

(To the Editor of the *Globe*.)

SIR,—In *The Globe* of the 22nd ult., there appears an article, purporting to be a review of the text book on the "Animal Kingdom," recently adopted by the Council of Public Instruction, on which I beg to be allowed to make some remarks. I desire, however, to give replies in detail to some of the statements of the reviewer, (and these I select merely as specimens) not on my own authority—my statements are already put forth in the book—but by quotations selected from the highest authorities in Europe, which I trust will satisfy the Canadian public as to the truth of all the instruction conveyed in my little book.

The reviewer says:—"On page 35, the *Spermaceti Whale* is credited with a head the length of which equals the rest of the body,—the real fact being that the head is somewhat less than a third of the length. On page 36, implicit credence is given to the old belief that the spouting of the whale consists in blowing out through the nostrils a quantity of water which had entered at the mouth. On page 38, our author, diving into geology, informs us that there were two species of elephants formerly in existence, (one of which was a *Mastodon*); and on page 43, we hear that fossil remains of the Hippopotamus are found in the London clay. We recommend the speedy publication of the latter fact in particular before some learned society."

In answer to this I quote the following:—

"The act of respiration is facilitated by the position of the nostrils, which are situated nearly at the highest point of the head, so that the animal can breathe as soon as the head comes to the surface of the water.

"The whales have the power of forcing out water through these passages by means of a peculiar apparatus with which they are provided. This consists of two pouches or reservoirs situated beneath the nostrils and communicating with the back of the mouth by the usual nasal passage, which is furnished with a valve.

"When the animal wishes to eject water contained in his mouth, it moves its tongue and jaws as if about to swallow it: but by closing the pharynx it compels the water to ascend through the nasal passage—whose valve it forces open—and to distend the reservoirs.

"There it may be retained until the animal desires to spout, and this is effected by the forcible compression of the pouches, which compels the water to escape by the nostrils or blow holes, its return to the mouth being prevented by the valve just mentioned."—*Carpenter's Zoology*, sec. 209.

"When the whales breathe they are forced to rise to the surface of the sea, and there make a number of huge respirations which are technically termed *spoutings*, because a column of mixed vapour and water is ejected from the nostrils or blow-holes, and spouts upwards to a great height, sometimes as much as twenty feet. In order to enable the animal to respire without exposing itself unnecessarily, the blow-holes are placed in the upper part of the head, so that when a whale is reposing itself on the surface of the sea, there is very little of its huge carcass visible, except the upper portion of the head and a part of the back. The *spoutings* are made with exceeding violence, and can be heard at some distance."—*Rev. J. G. Wood's Illustrated Natural History*.

"Professor Owen, in his work on the fossil mammalia of Britain, gives descriptions and illustrative figures of the remains of the mammoth, of a large hippopotamus, two species of rhinoceros, and one of a mastodon, an animal equal in bulk to the elephant, and like it furnished with tusks and a flexible proboscis. These mighty quadrupeds, once ranged over tracts which are now occupied by the busy towns, the verdant plains, and the stately homes of England, their bones too are sometimes full fathoms five in the seas that encircle her shores, and the trawling-net of the fishermen, when it encounters their heavy mass, has been known to break under its burden. Such occurrences recall to mind the adventures of the fisherman narrated in the Arabian Nights; but the fancy of the Eastern romancer falls short of the reality of this hauling up in British seas of elephants more stupendous than those of Africa or Ceylon."—*Patterson's Zoology for Schools*, p. 410.

"The hippopotamus has for years been extinct in Europe, but the fossil remains of the animal are found abundantly in the London

clay, showing that in some remote age the hippopotamus must have traversed the plains of England and wallowed in its rivers."—*Rev. J. G. Wood's Illustrated Natural History*, p. 766.

"Nearly allied to the elephants is an extinct genus termed mastodon, which was characterized by the form of its molar teeth." * * * "Several other species of mastodon, however, have been distinguished by their remains—of these some were natives of the old world, and probably even of Britain."—*Carpenter's Zoology*, sec. 209.

"Mastodon.—A genus of extinct quadrupeds allied to the elephant."—*Agassiz and Gould's Comparative Physiology (glossary)*.

"The other cetacea have the head so large that it constitutes one-third or even one-half of their length."—*Rymer Jones*.

But the writer of the article is evidently largely gifted with the organ of wonder, for he says:—"Our author on p. 101 develops some still more remarkable views as to the habits and structure of the wood-pecker. His beak, he says, is straight and sharp, and he pecks into the bark of trees till he has made a deep hole. Into this he extends his tongue, which is armed with barbs at the end, like the teeth of a saw. These turn backwards towards the birds' head; and as the tongue is fixed inside of the back of the head, it works by a sort of spring, and so deepens the hole and brings out the insects or their eggs which form the food of this hard-working bird. So the wood-peckers bore holes in trees with their tongues, these remarkable organs being fixed inside the back of the head. No one, we venture to say, but a very close observer of nature would ever have discovered these facts."

In reply, I quote as follows:—

"The wood-pecker is furnished with a singular apparatus, for enabling it to dart out with great velocity its long and pointed tongue, and transfix the insects on which it principally feeds; and these motions are performed so quickly that the eye can scarcely follow them.

"The tongue itself is a slender, sharp-pointed horny cylinder, having its extremity beset with barbs of which the points are directed backwards; it is supposed on a slender oshyoides or lingual bone to the posterior end of which the extremities of two very long and narrow cartilaginous processes are articulated.

"The two cartilages form at a junction with the tongue a very acute angle, slightly diverging as they proceed backwards, until bending downwards, they pass obliquely round the sides of the neck, connected by a membrane, then being inflected upwards, they converge towards the back of the head where they meet, &c. A long and slender muscle is attached to the inner margin of each of these cartilages, and their actions conspire to raise the lower and most bent parts of the cartilages, so that their curvature is diminished, and the tongue protruded to a considerable distance for the purposes of catching insects. As soon as this has been accomplished, the muscles being suddenly relaxed, another set of fibres passing in front of the anterior portion of the cartilages, nearly paralld to them are thrown into action, and as suddenly retract the tongue into the mouth with the insect adhering to the barbed extremity. Whilst the bird is in the tree, it repeats these motions almost incessantly, boring holes in the bark, and picking up the minutest insect with the utmost celerity and precision."—*"Roget" Bridgewater Treatise on Animal Physiology*.

An account of this mechanism, is given by Mr. Waller in the *Phil. Trans.*, for 1716, p. 509. I may add that in almost every good natural history or encyclopædia there is to be found an engraving of a section of the head of the wood-pecker, showing that the action and wonderful construction alluded to have been examined and delineated. But, then, naturalists ought to be, and are "close observers."

The reviewer then says:—"For the benefit of non-scientific readers, we may state that the crustaceans derive the lime for their shells from the sea-water, whence it passes into the blood, and that the 'crabs'-eyes' of Mr. Davidson have as much to do in the production of the shell as they have in determining the price of wheat."

I subjoin the following on the authority of Dr. Carpenter and Professor Rymer Jones:—

"The mode in which the crustacea, whose calcareous shell is periodically thrown off, are able to renew it with rapidity, is very curious. There is laid up in the walls of their stomachs a considerable supply of calcareous matter, in little concretions which are commonly known as crabs'-eyes; when the shell is cast this matter is taken up by the blood and is thrown out from the surface mingled with animal matter.

"This hardens in a day or two, and the new covering is complete. The concretions in the stomach are then found to have disappeared, but they are gradually replaced, before the supply of lime they

contain is again required."—*Carpenter's Animal Physiology*, sec. 170.

"The pressure of the old shell being removed, the animal suddenly increases in bulk, the new skin, as yet soft and flexible, allowing at first of great expansion, but it rapidly hardens, a stock of shelly matter having been for some time accumulating in its stomach in the form of two hard balls commonly called 'crabs'-eyes."

"This substance is supposed to be taken up and distributed to the surface, so that when the new crust has again acquired consistence, these concretions are no longer found. The whole process occupies from one to three days."—*Professor Rymer Jones' Animal Creation*, p. 203.

I do not feel justified in trespassing further on your space, or on the patience of the public, but I am prepared to send you if you can find room for their insertion, replies as complete as those now submitted to every single accusation of the so called "errors."

I may add that a copy of the book is in the possession of almost every teacher of the subject in England, and that it is largely used as a text-book in several of our highest schools, so that the Canadian Educational authorities in making choice of this work did not select an unknown work as your reviewer would seem to imagine, but one which had already an established reputation as a school-book in England.

I have the honour to be, Sir,

Yours very truly,

ELLIS A. DAVIDSON,

Author of "The Animal Kingdom."

II. Mathematical Department.

To the Editor of the Journal of Education.

SIR,—A majority of those employed in public instruction would hail with pleasure the event of the *Journal of Education* becoming a medium for the diffusion of mathematical as well as literary knowledge. A Mathematical Department would become practically useful to teachers, and interesting to your general readers. Our spare time could be profitably and honourably employed by pleasant and friendly competition in science and literature; and though widely separated by space, we could form a school of mutual instruction, and make the *Journal of Education* really pleasing, attractive, and useful to the teachers of Ontario. Under these considerations, I humbly send the following problems as the result of my first effort to begin a mathematical column. I do not claim originality for all; but in their choice, I have endeavoured to avoid extreme difficulties and to aim at practical usefulness.

1. In what time could \$2,500 yield the same amount, if placed at 6 per cent. simple, and 3 per cent. compound interest? To be solved by arithmetic.

2. $\sqrt{n^2} - \sqrt{n^2} = 4.962x$; find the value of x .

3. The principal, time, rate, and gain, at compound interest, are all equal; required the time.

4. $x^3 + y^3 = z^3$; find x , y , and z .

5. A bar of wrought iron, 150 feet long and 1-5th square inch in section, lengthens .289 inch under a certain strain, what must be the additional strain necessary to produce rupture?

6. The base of a triangle is 80, and sides containing the vertical angle are 65 and 55 perches, respectively; required the length of a line drawn from a point without the triangle, 8-53 perches from the side (55), so as to cut off 5-7ths of the area.

7. An iron wedge whose vertical angle is 14° , is driven into a mass of oak by a force of 125 lbs.; what force is necessary to extract it?

8. A beam of oak 1 foot square has its end firmly embedded in masonry from which it projects 9 feet; to what height could a wall of brickwork 2 feet thick and resting on the beam, be carried without producing rupture?

9. In a given triangle, the base $AC = 100$; $AB = 70$; $BC = 90$. (I) What is the length of a line parallel to the base? (II) perpendicular to the base? (III) inclined at a given angle to the base (15°), so as to cut off 7-11ths of the area? (IV) Bisect the triangle by a line whose length is 49-32.

10. The rafters of a house are each 18 feet long, and tied by a wrought-iron rod 30 feet long and section $\frac{1}{4}$ square inch; what weight must be suspended from the vertical angle so as to break the rod?

11. What must be the length of a bar of wrought-iron, which, if suspended vertically, would break by its own weight?

12. If into a hollow cylinder, the inner diameter of whose base is 3 inches, and length 18 feet, we put as many wires of 1-14th inch in diameter and same length as the cylinder, as it can contain, how much water could be afterwards poured into the vessel?

13. Solve the following equation without completing the square :

$$\frac{x^2}{y^2} + \frac{y^2}{x^2} + \frac{x}{y} + \frac{y}{x} = 6\frac{1}{2}; \text{ and } x - y = 2.$$

14. The sum of four numbers in geometrical progression is 45, and sum of their squares 765; what are they?

15. A hollow sphere, whose inner diameter is 3 feet, is filled with water; what is the ratio between the pressure on the internal surface of the sphere and the weight of the water?

I am, Sir,
Your obedient Servant,
A. DOYLE.

Hamilton, July, 1872.

PUBLIC SCHOOL EXAMINATIONS.

To the Editor of the Journal of Education.

SIR,—I send you, for publication in the *Journal*, solutions of the questions in Natural Philosophy and Algebra proposed to candidates for first-class certificates at the recent examination of Public School Teachers. In your next number I may perhaps make some remarks of a general kind on the result of the examination.

I have the honour to be, Sir,
Your obedient servant,
GEORGE PAXTON YOUNG.

TORONTO, 1st August, 1872.

NATURAL PHILOSOPHY.

1. A considerable number of students have still very vague ideas of what a uniformly accelerating force is, and how it is measured. I therefore crave attention to the following statements by the late Dr. Whewell, of Cambridge: "The magnitude of forces is measured by their effects; and the effect of forces which we consider in Dynamics is velocity. Accelerating force is force measured by the velocity which, in a given time, it would add to the motion of a body. If the velocity added be equal in equal times, the force is said to be uniform."

Let x be the time which the particle P takes to reach A . In that time it goes over a space $20x$ in virtue of the velocity already acquired; and over an additional space of $16x^2$ due to the accelerating force to which it is subject. Therefore

$$16x^2 + 20x = 6 \therefore x = \frac{1}{4}.$$

Similarly, if y be the time in which Q reaches A , we have

$$20y^2 + 20y = 6 \therefore y = \frac{1}{4}.$$

Therefore the particles reach A in the same time.

2. The ascending particle has, at A , a velocity of 8 feet a second. To destroy this velocity $\frac{1}{4}$ of a second is necessary. Another $\frac{1}{4}$ of a second is expended in the return of the particle from rest to A . Therefore the descending particle takes $\frac{1}{2}$ a second to reach the ground from A . In that time it goes through 4 feet in virtue of the velocity already acquired; and 4 feet besides, due to the action of the force of gravity. Therefore

$$m = 8.$$

3. As this question has been satisfactorily treated by very few of the candidates, I give two solutions.

The forces represented by PA and PB have, as their resultant, a force acting in the direction of the diagonal of the parallelogram of which AP and BP are adjacent sides. But these forces, by supposition, keep the lever at rest. Therefore their resultant must pass through the fulcrum; for if it struck the lever on either side of the fulcrum, it would turn the lever. Hence C is the point of intersection of the diagonals of a parallelogram, and therefore $AC = BC$.

Another solution: Draw CD perpendicular to AP , and CE to BP . Then, since the lever is at rest, the force at A multiplied by CD is equal to the force at B multiplied by CE . That is,

$$PA \times CD = PB \times CE.$$

Therefore, triangle $ACP =$ triangle BCP .

$$\therefore AC = BC.$$

4. This question, with the preceding, appears to have been felt to be more difficult than any others in the paper. This shows, I think, that the candidates generally have no firm grasp of the principles of the resolution of forces. I will therefore give the solution of the question somewhat fully.

A force represented in magnitude and direction by AD can be resolved into two others; one in the direction AB , and represented in magnitude by AB ; the other in a direction perpendicular to AB , and represented in magnitude by BD . This is a direct consequence of the principle of the parallelogram of forces, as may be

seen by completing the parallelogram $ABDE$, and observing that the force represented in magnitude and direction by AD is a resultant of the forces represented in magnitude and direction by AB and AE respectively. Therefore a force $\sqrt{2}$ in direction DA , has for its resolved part in direction BA a force less than $\sqrt{2}$ in the proportion of BA to AD , or $\frac{BA}{AD} \sqrt{2}$ that is one.

In like manner, if the given force of 2 feet in the direction AC be resolved in the direction AB , and in that at right angles to AB , we shall find the former resolved part to be 1. But these forces, uniting in the direction BA , and uniting in the direction AB , counterbalance one another, leaving only forces the direction of whose action is at right angles to AB .

5. No note on this question seems necessary.

6. The pressure of 1 lb. sinks the cube one-sixth part. Therefore one-sixth part of a cube of water, of the same size as the given cube, weighs 1 lb., and the whole of such a cube of water weighs 6 lbs. But the given cube has only one-third of the specific gravity of water. Therefore its weight is 2 lbs.

$$\text{The content of the sphere is } \frac{32\pi}{3}; \text{ that of the cylinder is } \frac{28\pi}{3}$$

Let h be the height of the barometric column. Then

$$28 : 32 = 7 : 8 = h + t : h + 5\frac{1}{2}$$

$$\therefore h = 30.$$

8. Bookwork.

9. The volume of the instrument is V ; that of the part not immersed in the first fluid kd ; therefore that of the part immersed is $V - kd$. Hence the weight of the fluid displaced is $S_1(V - kd_1)$. But this represents the weight of the instrument. In like manner $S_2(V - kd_2)$ represents the weight of the instrument. Therefore the quantities

$S_1(V - kd_1)$ and $S_2(V - kd_2)$ are equal to one another, and

$$\frac{S_2}{S_1} = \frac{V - kd_1}{V - kd_2}$$

[In the examination paper, the expression $\frac{S_2}{S_1}$ was, by an error of the press made $\frac{S_1}{S_2}$.]

10. Here f , in the formula, $s = \frac{1}{2}ft^2$, is less than 32 in the proportion of 1 to 11. Therefore $8 = \frac{16t^2}{11}$, and $t = \sqrt{5.5}$.

ALGEBRA.

1. Let x be the number of minute spaces gone over by the minute hand since 3 o'clock. Then $x - 30$ is the number gone over by the hour hand. Therefore

$$12x - 360 = x, \text{ and } x = 32\frac{8}{11}.$$

2. Let m and n be the quantities. Then

$$x = \frac{m+n}{2}$$

$$y = \frac{2mn}{m+n}$$

Therefore $xy = mn$, the geometrical mean between m^2 and n^2 .

3. Let y and z be the roots. Then

$$y^2 + z^2 = 19, \text{ and } y + z = 1.$$

$$\therefore y = 3, z = -2.$$

By the substitution of either of these values in the given equation, we get $p = 6$.

4. The square root of $22 - 12\sqrt{2}$ found by the ordinary method is $2 - 3\sqrt{2}$. Therefore

$$10x + 2\sqrt{2} = (2 - 3\sqrt{2})(5x - 2\sqrt{2}).$$

$$\therefore 5x = 2\sqrt{2} - 2.$$

5. Add 2 to each side. Then

$$\left\{c + \frac{1}{x}\right\}^2 + \left\{c + \frac{1}{x}\right\} = \frac{35}{4}.$$

Therefore $x + \frac{1}{x}$ can be found, and hence x . [The solution is $x = 2$.

6. Let $y = zx$. Then

$$x^2(1+z+z^2) = \frac{1}{x},$$

$$x^3(4+11z+8z^2) = \frac{1}{x}.$$

Eliminate x , and the rest is plain sailing.

7. Put s for $2x+y$, and d for $2x-y$. Then

$$\frac{1}{sd} + \frac{1}{s} = \frac{4}{3},$$

$$\text{and, } d - 2sd + 3 = 0.$$

The equations in this form present no difficulty.

8. Bookwork.

9. Bookwork.

10. Let $2x$ be the distance of P from M , and Zx the distance of distance of P from N ; y the rate of B , and $y+1$ the rate of A . Then

$$\frac{3x}{y} - \frac{2x}{y+1} = 5,$$

$$\text{and, } \frac{6}{y} + \frac{1}{2} + \frac{x}{2y} = \frac{5x}{2(y+1)}.$$

Eliminate x . Then $y = 2$, and $5x = 30$.

MISCELLANEOUS CORRESPONDENCE.

To the Editor of the Journal of Education.

In the January No. of the journal, Mr. J. A. McLellan, solves the problem cited as No. 4, and enunciated "City of Toronto Debentures, 6 per cent, having 6 years to run, are offered for sale; What price shall I buy to realize 10 per cent, upon my investment?" Mr. McLellan makes the result to be $100 \times (1.06)^4 \div (1.1)^4$ to which I demur.

A six per cent debenture entitles the holder to receive \$6.00 annually, and \$100 at expiry of term. Consequently the present

value at 10 per cent of one having six years to run is $\frac{6}{(1.1)^1} + \frac{6}{(1.1)^2} + \frac{6}{(1.1)^3} + \frac{6}{(1.1)^4} + \frac{6}{(1.1)^5} + \frac{100}{(1.1)^6}$ which = $\frac{6}{(1.1)^1} + \frac{6}{(1.1)^2} + \frac{6}{(1.1)^3} + \frac{6}{(1.1)^4} + \frac{6}{(1.1)^5} + \frac{100}{(1.1)^6}$ as may be proved by actual expansion and collation, and which may be further transformed into $60 + 40 + (1.1)^6 = \$52.573$. Mr. McLellan's result is \$50.071.

H. T. SCUDAMORE.

Euphrasia, 19th, July, 1872.

To the Editor of the Journal of Education.

In the April No. of the Journal Mr. Ireland propounds this problem:—"An Indian reserve is bounded by four straight lines 1, 2, 3, 4 miles. Required its maximum area in square miles."

A quadrilateral is a maximum when it can be inscribed in a circle, that is, when it has its opposite angles supplementary to each other. (See Geom. Max. and Min.) and it makes no difference in what order the sides are taken. (Euclid, 3 book, prop. 10.)

∴ putting a, b, c, d for the sides we have

$$a^2 + b^2 - 2ab \cos \psi = c^2 + d^2 - 2cd \cos (180^\circ - \psi)$$

$$\text{But } \cos (180^\circ - \psi) = -\cos \psi \therefore \cos \psi = \frac{a^2 + b^2 - c^2 - d^2}{2ab + 2cd}$$

And the area of the quadrilateral is

$$\frac{ab \sin \psi + cd \sin (180^\circ - \psi)}{2} \text{ But } \sin \psi = \sin (180^\circ - \psi)$$

$$\text{and } \sin \psi = \sqrt{1 - \cos^2 \psi} = \sqrt{4(ab+cd)^2 - (a^2+b^2-c^2-d^2)^2} / 2ab + 2cd$$

Consequently the area is

$$\frac{1}{2} \sqrt{4(ab+cd)^2 - (a^2+b^2-c^2-d^2)^2}.$$

Inserting the values of a, b, c, d , viz, 1, 2, 3, we get the area $\sqrt{24}$ miles.

This expression for the area may be reduced by putting $2S = a + b + c + d$ into the form $\sqrt{(S-a)(S-b)(S-c)(S-d)}$.

H. T. SCUDAMORE.

Sutherland's Corners P. O., 18th July, 1872.

To the Editor of the Journal of Education.

SIR,—Having noticed in the April Number of the Journal some answers to the question "A lends B \$1,000, payable in ten annual instalments of \$160 each. What rate per cent. simple interest does B pay for his money?" I give the following remarks and figures thereon. In this agreement the ten payments, = \$1,600, pays principal and interest—consequently each payment pays the interest due at the end of each year, and some of the \$1,000 back each year, leaving the borrower with less and less of the \$1,000 every year. Now if the rate per cent. is $21\frac{1}{2}$, the first payment will not nearly pay the interest due on the \$1,000 B has had the first year will not pay any of the principal. And the rate $10\frac{1}{11}$, as some seem to think it is, is on the assumption that B pays \$100 of the principal off each year, which only leaves \$60 interest equal to 6 per cent. first year, while for the last year B is made to pay 60 per cent. I have no very satisfactory solution to the question, but find the rate to be 9.607 nearly, and give the following table of payments as proofs of its correctness:—

		Interest.	Principal.	Back.
First year	B has \$1,000, for which he pays	\$96.07 +	63.93 =	160
2nd	"	936.07	"	87.92 " 70.08 "
3rd	"	865.99	"	83.19 " 76.81 "
4th	"	789.18	"	75.81 " 84.19 "
5th	"	704.99	"	67.72 " 92.28 "
6th	"	612.71	"	58.86 " 101.14 "
7th	"	511.57	"	49.14 " 110.86 "
8th	"	400.71	"	38.48 " 121.52 "
9th	"	279.19	"	26.81 " 133.19 "
10th year	B had 146.00	"	"	14.00 " 146.00 "
		\$6,246.42	\$600.00	\$1,000

From the above it will be seen that B has \$6,246.42 equal to one year, for which he pays \$600 interest; which makes it to the lender if he lets the repayment, on the same terms, out again as soon as he has paid, the same as lending money at 9.607 per cent. per annum compound interest.

Yours,

T. B. WHITE.

Collingwood, July 26, 1872.

To the Editor of the Journal of Education.

The April No. of the Journal, contains an elegant and very elaborate article upon Interest, by Mr. Cameron. I have perused the article with much pleasure and profit, and, in venturing to criticize it, do so with all due deference.

I have not at present sufficient leisure to make more than one remark. It is in reference to the principle whereby Mr. C. computes the rate of interest on the protested money-lending case. My remark takes the form of a problem.

A lends B \$100, payable in 41 annual instalments of \$5 each. What rate per cent., simple interest, does B. pay for his money?

By Mr. Cameron's mode of computation we learn:—

Interest for 1st year = 100 r .

" 2nd " = $(100 - 5) r$.

" 3rd " = $(100 - 2 \times 5) r$.

" 4th " = $(100 - 3 \times 5) r$, &c., &c.

for 41 terms, the last of which is

Interest for 41st year $(100 - 40 \times 5) r$.

Summing, we obtain $(41 + 100 - 41 + 40 + 5) r = 41 + 5 - 100$

whence $r = \text{infinity}$.

Such a fearful rate of interest as this would soon land a borrower in the Bankruptcy Court.

I think the fallacy lies deeper than a mere diversity between Mr. C.'s mode and that of the text books, and is inherent in the very idea of there being any such thing as simple interest in contradistinction to compound interest. I should like to see the subject discussed in your columns, and should opportunity permit may address you again on the subject.

HENRY THOS. SCUDAMORE.

Euphemia, 19th July, 1872.

III. Miscellaneous.

RAIN IN SUMMER.

How beautiful is the rain,
After the dust and heat
In the broad and fiery street—
How beautiful is the rain!

How it clatters along the roofs,
Like the tramp of hoofs!
How it gushes and struggles out,
From the throat of the overflowing spout!
Across the window pane!
It pours and pours!
And swift and wide,
With a muddy tide,
Like a river down the gutter roars
The rain, the welcome rain!

The sick man from his chamber looks
At the twisted brooks;
He can feel the cool
Breath of each little pool;
His fevered brain
Grows calm again,
And he breathes a blessing on the rain.

From the neighbouring school
Come the boys,
With their wonted noise
And commotion,
And down the wet streets
Sail their mimic fleets,
Till the treacherous pool
Ingulfs them in its whirling
And turbulent ocean,

In the country on every side,
Where far and wide
Like a leopard's tawny and spotted hide,
Stretches the plain,
To the dry grass and the drier grain,
How welcome is the rain!

ILLEGALITY OF KILLING BIRDS.

The wanton or selfish destruction of our insectivorous birds is a disgrace to our civilization. Sundays and holidays are the favourite days, during which a certain class leave the city to prowl about the country, shooting the birds while nestling or hatching their young. Some destroy them from sheer love of mischief; others in order to dispose of the heads and wings to dealers in ladies' hats. Those who frequent our markets may see our small birds exposed for sale, minus heads and wings; the latter find their way into the hands of dealers, who work them up into ornaments for ladies' hats. There is a law imposing a penalty of \$10 on any person proved to have killed an insectivorous bird; but there are difficulties in the way of enforcing the penalty. The short remedy would be to make the party in possession of a dead bird liable for the penalty, unless he could prove that it was not killed purposely. The farmers induced the legislature to enact a law protecting small birds, convinced that their destruction exposed their crops to the ravages of insects, and that law, if not sufficiently repressive, should be amended. In England the same subject has been brought before the Commons by Mr. A. Herbert, and the evidences of the advantages of protecting insectivorous birds is as applicable to Canada as to England. Mr. Herbert said:—"As the House was aware great harm was done to plants, trees and fruits by insects of various descriptions. There was a species of beetle which destroyed whole acres of forests; but while we have an army of destruction, we had also an army of protection. Birds may be called the police or soldiery of Nature, although they had, of course, many allies, such as the bat, the mole and the hedge-hog. The reason why the swallows came over in such numbers to this country, was to feed on the immense multitude of insects which they found here, and which at particular seasons they could not find in their own country. The extent to which birds, he might add, feed on the insect life was hardly credible. Mr. Ware, whose benevolent views with respect to animals were well known, took the trouble to get up in the middle of the night, and to count how many times some birds feed on their young. He found that the thrush worked even beyond Parliamentary hours, because he began at 2:30 in the morning, and worked till 9:30 in the evening, or 19 hours, during which time he fed his young 206 times. The black-bird worked 17 hours, and fed his young 44 times, and the female 55 times, while titmice fed their young the marvellous number of 417 times in the day, as Mr. Ware believed on caterpillars. We had also such birds as the swallow, the swift, the martin, the wagtail, the cuckoo, and the white owl, the use of which, he was sorry to say, was but very little appreciated, but he would pass from them to other birds, whose characters were rather of a more doubtful description. He would first mention the sparrow, which did a

great amount of good, and about the mode of conducting whose operations a very curious story was told. He was seen fluttering about a rose-bush and flapping it with his wings, just as a game-keeper would beat a preserve, and was soon after found to be engaged in picking up all the caterpillars which had dropped from the bush. There was also an historical anecdote with respect to the sparrow which was, he believed, perfectly trustworthy. Frederick the Great was very fond of cherries, and he discovered that the sparrows had a similar liking. The consequence was that in his desire to preserve the cherries he put a price on every sparrow's head, but at the end of two years he found it expedient not only to take off the tax, but to import sparrows at some expense into his dominions. Then there was the chaffinch, who was a great favourite with Mr. Waterton, who was of opinion that he did a great amount of good. The only bird, as far as he knew, which did not feed its young on insects and destroy a certain number of them in the year was the wood pigeon, but even he was of value. Lady Countess had written to *The Times* a short time ago to say, that she could not keep even a nightingale in her garden, owing to the prevalence of netting. Swallows were netted in the same way and placed in cages, in which not one-twentieth part of them could live. A friend of his happened to be fishing the other day a little below Monkey Island, on the Thames, and he saw the bodies of several swallows and swifts, which had been shot by some, one floating by him. There were institutions called sparrow clubs, but the members of those clubs did not, he believe, really know the effect of that which they did. Their conduct was compared by Mr. Wood to the act of shooting our own soldiers at the moment of invasion by an enemy. He ventured, therefore, to plead on behalf of the constituency which had no votes, and which could not plead for itself, that no exception should be made in the case of the birds to be protected by legislation."

III. Educational Intelligence.

VICTORIA UNIVERSITY.—CONVOCATION WEEK.—At the closing Exercises in connection with Victoria University, the Baccalaureate Discourse was delivered by the Rev. Principal Dr. Nelles on Sunday evening. On Monday afternoon the Alumni Association met in their Hall. The members were entertained to a dinner by the local committee. The following officers were elected for the ensuing year: *President*—Mr. J. H. Dumble, M. A., LL.B., Cobourg. *Vice-Presidents*—Rev. Hugh Johnston, M. A., and Eli J. Barrick, M. D., &c., Toronto. *Secretary*—Mr. Henry Hough, M. A., Cobourg. *Treasurer*—Mr. J. W. Kerr, M. A., Cobourg. *Committee*—The graduates residing in Cobourg. On Monday evening Rev. W. M. Punshon delivered his lecture on "May-flower Memories," in which he gracefully and powerfully told the story of the Plymouth Rock Puritans from the inception of their movement for freedom to their achievement of it in the forests in the New World. The Annual Convocation was held on Tuesday. After prayer by the Rev. Mr. Jones, Mr. Dingwall delivered in a creditable manner his "Valedictory Oration," taking as his subject "War." The following were then admitted to their degrees:

B. A.—Shepley, George F., *Gold Medallist*; Haggart, Alex., Switzer, P. A., *Silver Medallists*; Dingwall, Kenneth, *Valedictorian*; Carpenter, W. J.; Clark, John R.; Hare, Chas. J.; Harper, Cecil; Hawkins, Chas. W.; Holman, Chas. J.; Mallett, Richard; Pearen, James; Peterson, An. M.; Ross, John R., (*ad eundem*) Young, Rich. W.

M. A.—Burwash, John, B. A.; Bristol, Coleman, B. A.; Hayden, F. J., B. A.; Janes, Simeon H., B. A.; Macpherson, M., B. A.; Meacham, Geo. M., B. A.; Moore, John, B. A.; McNaughton, T., B. A., (Toronto Univ.); Payne, Wm. L., B. A.; Raveill, John W., B. A.

M. D.—Beaupre, Louis; Carriere, Phileas; Cartier, Paul; Coulombe, Ch. Jer.; Dagenais, Adolphe; Demers, Fred.; Desmarteau, N. B.; Desrosiers, L. J. P.; Dufort, Tancrede; Dupries, Julien; Fafard, Ch.; Filiatrault, Ch. M.; Gabourg, Ulric; Gagnon, Jos.; Gosselin, Vinc't.; Heroux, Horace; Laporte, J. B.; Larne, Omer; Larocque, Henri; Laurin, Victor; Macdonnell, J. R. D.; Matthieu, Arthur; Meunier, Paul; Migault, Zoel; Paquet, —; Patoel, Francois; Rouleau, Zeph; Roy, L. M. A.; Simard, Alfred; Trudel, I.; Abbott, J. T.; Barclay, T. S.;

Boyle, W. S.; Brent, H.; Campbell, M. C.; Carter, Robert; Ferguson, J. P.; Fraecl, S.; Law, T.; McCollum, J. S., *Gold Medallist*; Nichol, A., *Silver Medallist*; Shepherd, H. E.; Washington, Nelson.

LL.B. - William L. Payne, M. A.

LL.D.—John Wilson, M. A.; Rev. Wm. M. Punshon, M. A.; Rev. S. S. Nelles, D. D.

The Presentation of Medals, Scholarships, and Prizes, was then proceeded with,—the following gentlemen being the successful competitors: Prince of Wales Gold Medal—George F. Shepley. Prince of Wales Silver Medal—Alex. Haggart, P. A. Switzer. Scholarship (founded by class of 1871)—George Beavers. Ryerson Prize, First in Scripture History—James S. Ross. Mills Prize, First in Classics for Freshman Year—David Kane. Wallbridge Prize, First in Greek Testament—David Kane. Freshman Prize, First in Hebrew—J. J. Hare. Second Prize in Hebrew—David Kane. Webster Prize, First English Essay—J. L. Whiting. Punshon Prize, First in Elocution and Composition—Kenth Dingwall. Senior Greek Testament Prize—George F. Shepley. Gold Medal, Medical Faculty, Toronto—J. S. McCollum. Silver Medal, Medical Faculty, Toronto—Angus Nichol. Literary Association Prizes, First English Essay—G. W. Hawkins; first in Elocution—Benjamin Longley; second in Elocution—C. C. Workman, Thomas Manning. For students in Theology, Cooley Prize, First in Metaphysics, J. J. Hare. First Brethour Prize, work of the year in the Undergraduate Course—J. J. Hare. Second Brethour Prize—Benjamin Longley. First Brethour Prize, in Theology—W. W. Edwards. Second Brethour Prize, in Theology—T. J. Admison. In presenting the "Webster Prize" for the "First English Essay," the American Consul, Mr. Lawrence, said that: As the representative of an English speaking nation he naturally took an interest in the study of English literature—in the literature of the England of Oliver Cromwell, who was so jealous of her honour, that he went to war with Holland for carrying a broom at the mast head of her vessels, and so careful of the lives of British citizens that he executed the brother of the Portuguese ambassador for killing a man in a duel in London. That England which expelled the House of Stuart for despotism, and founded with the House of Brunswick a system of constitutional liberty analogous to their own. Though separated from her by thousands of miles they (the people of the U. S.) were not unfamiliar with her best authors. They had read the Counterblast to Tobacco by James I., the Eikon Basilike by Charles I., the Eikonoclastes by Milton, the Paradise Lost, the Hind and Panther, Clarendon's Rebellion in England, Bolingbroke's writings, edited by his friend Mallet, and they were convinced by study that Sir Philip Francis was the author of Junius. If they were sometimes charged with adding unusual words to the mother tongue, did not Horace say that Plautus and Ennius had coined so many words that it was lawful for him to make one impressed with the current stamp? Would it be denied to Mark Twain, and Artemus Ward, and Brete Harte under a republic to do what the Brundisian bard could do under the empire? To be again selected to deliver to a student a prize from this institution was an honour to his country which might perhaps excuse a reference to American efforts to maintain the purity of the English language as it was spoken in its Augustan age. Dr. Johnson has remarked that no one could call a river deep or a mountain high if he had not tested the depths of other rivers and measured the height of other mountains—that we would not consider Homer as the matchless bard we now hold him to be if nation after nation had not vainly striven to rival or excel him. It was by the study of the best classical authors that they obtained a mastery over their own language and acquired a substantial fame, whilst self-taught genius sank into obscurity, unless like Shakespeare, he lived in an age when the learning of good society was at so high a standard that he could borrow from all around him and correct his own ignorance by the good natured aid of the frequenters of the green room. That Shakespeare owed much to the wit of the day, and much to Queen Elizabeth

herself, is what none could deny who saw in his writings a classical knowledge the bard had no chance to acquire, and who remembered the ripe learning of the fair pupil of Roger Ascham. When they considered the long line of British Secretaries of State, from Milton to Gladstone, who were distinguished as authors,—when they reflected that two of them translated Homer,—when they remembered that Benjamin Franklin, who aided in founding their republic, and Horace Greeley, who was now a candidate for its highest honours, were both literary men, they would see that like the French soldier they carried in their knapsack a Marshal's baton, and that if they belonged to the army of literary men they might in this age of progress outstrip those of the oldest blood and acquire for themselves a rank amongst the illustrious great and a grave in Westminster Abbey. (Long continued applause.)

Rev. Dr. NELLES, in speaking of the success of Victoria University during the past year, alluded to the Arts department in Cobourg and the almost unprecedented prosperity of the Medical Branch in Montreal. Several circumstances had operated against the Toronto Branch; among others the death of Dr. Rolph, long at the head of his profession in this country and as a lecturer unsurpassed on the whole American Continent. Also the great distance of the College from the city hospital. He was happy to say that efforts that promised to be successful had been made, and that ere long the Toronto Branch would be as flourishing as ever. A most tangible proof of the healthy working of the Arts department was evident from the fact that the graduating class of this year without any suggestion either directly or indirectly on the part of the Faculty or any member thereof, had founded a scholarship, in perpetuity of the annual value of \$72. He was glad to see them following the noble example of the class of '71, who had established a scholarship of \$71, and if the class of '73 founded one of \$73 and so on to the end of the century and to the end of all the centuries, surely no one need fear that Victoria College would want for scholarships. Besides being an honour, a scholarship was a great benefit to students, most of whom had to struggle with difficulty through their course, for \$71 came not far short of the actual necessary expenses of a College session. He thought this was good evidence for Victoria College, for none had more opportunities or were more critical and prying than students, and when they were found at the end of their course acting thus, no higher tokens of appreciation could be desired. But some of the elder graduates had not forgotten their *Alma Mater*. Mr. Mills of the Collegiate Institute had established a prize in classics, and the Rev. Mr. Brethour three valuable prizes in Theology. Mr. McNaughton, who had that day received the degree of M. A., had established a prize of the value of \$20 to be awarded to the one who in taking the degree of M. A., produced the best essay on "The harmony of Science and Religion." The College has been greatly embarrassed by the withdrawal of the annual grant of \$5,000 by the State, but it had not despaired, but trusted to skilful management guided by Providence. They proposed to raise the sum of \$100,000 as an Endowment Fund. \$60,000 of this had been raised and invested in public securities, while \$90,000 had already been subscribed, so that they had no fears of getting the \$100,000. But though this amply compensated for the loss of \$5,000 grant from the State, it was not adequate to the support of a well equipped college, even in Cobourg where one could be sustained more economically than in Montreal or Toronto. The ministers of the church with which they were more immediately connected had decided to pay out of their own private purses, which were by no means heavy, the debt of \$11,000 which had accumulated on the withdrawal of the state aid. He had been much struck with a remark made by Prof. Goldwin Smith at the late Convocation of McGill College, and the statements of a gentleman so learned in such matters might be received with implicit credence. In speaking of the position of McGill, which draws but little, if any, state support, Mr. Smith said that the histories of Universities throughout the world showed that those the most successful were not the ones endowed with princely state grants, but those supported by the benefaction and enter-

prise of private individuals. Some of the most flourishing American Colleges, that now rivalled the proudest and best in Europe, had to struggle through a long series of difficulties, but honoured by their alumni they were endowed by the wealthy among them, and so thoroughly equipped that they are at once the envy and the admiration of the world. The alumni would never regret the sacrifice so made, and if those of Victoria followed their example they would raise their *Alma Mater* to the proud position which he and his honoured friend at his left, Judge Boswell,—who a resident of Cobourg for fifty years, and who, though a member of a church different from that with which the University was more immediately connected, had been largely instrumental in obtaining the College charter, no doubt because he saw it would be for the public good, showing thus the nobleness and the breadth of his views,—hoped it would yet attain. He might not live to see it, if he had much longer the care and anxiety of mind he had borne of late he would not live many years anyhow—but he believed the day was not far distant when it would be considered a high honour to be connected in any way with Victoria College. In his student days he roomed with a poor fellow—two poor boys they were; he (the Rev. Dr.) was poor yet and always would be, the other was rich. This poor room-mate worked his way by ringing the bell, and, as many do here to the increase of their finances and the profit of many in town, by doing some private tuition. He was not of the brightest parts either; he was the *greener* of the two. That was in 1847, and five years ago he gave his *Alma Mater* \$100,000. He referred to Orange Judd, the proprietor of the *American Agriculturist*. There was an example for the Alumni of Victoria. There was the Mayor, Mr. Kerr, a graduate of the University who, ere long, would be endowing it with \$100,000 or, if that was too much, at least \$50,000; and there was Mr. Dumble who had become immensely wealthy, and Dr. Beatty who had grown rich with marvellous rapidity. The country at large had confidence in Victoria, for their graduating class this year was only two or three less than that which would in a few days be admitted to degrees in the great Provincial University with all its endowments. Because it was found difficult to support a College without fixed aid, was no argument against its efficiency. Leave our Common Schools or our Grammar Schools to the charity of private persons and what would they be? They had an instance in Cobourg. They tried to sustain it by private management and it went down flat with the ground. But Victoria College came to the rescue, fixed support was given to the School, and now they had one of the most flourishing Collegiate Institutes in the Province. It was rather difficult to convince a man who had no son at College or perhaps no son at all, that it was his duty to give of his means for the education of other men's sons. However, he believed a sufficient number would be found with broad views, and sympathetic with the cause of progress, to remove any darkness which now might appear in the sky. And by their endowments equip Victoria College with royal magnificence so that it could look down on the waters of glorious old Ontario as the trusted guardian of the moral and spiritual interests of the youth of our young yet noble New Dominion stretching from ocean to ocean and extending to the ends of the earth itself. (Applause.)

Rev. Mr. Stephenson made several very interesting and appropriate remarks. He joined with all in good wishes to the University, and believed that the Rev. Principal in his statements regarding it had but acted as the mouthpiece of the people at large.

Rev. Mr. Wiseman, delegate from the British Conference, thought the reason why he and the Rev. Mr. Stephenson had been called on first was that the people of Canada wanted to show their attachment to the mother country. He would assure them that the feeling was strongly reciprocated. [Loud applause.] He had attended many large popular meetings in England and in nearly all he had heard this great Dominion spoken of as "the land of the free and the home of the brave." He was glad to notice that while the natural resources of this great country were

being developed they did not neglect their intellectual progress. He had wondered, when not long ago, riding through Nebraska and Iowa the "Great West" of which so much had been heard in the old world, if higher education received proper attention. He was pleased to see the great variety of studies in the curriculum here and believed that the rigid discipline of such studies would be of lasting good to them. Nowadays a great outcry is made against the classics. Though not a devotee to dead languages he thought that a knowledge of them led to a more easy understanding of living ones, to say nothing of the mental discipline they furnished. However he thought little of one who would bungle his mother tongue, though master of a dozen dead languages. He hoped they gave due attention to mathematics and the physical sciences and that they would allow none with whom they came in contact to remain in a state of contented ignorance.

Rev. Mr. Punshon said he always took an interest in the University, but now more than ever as the connection between himself and it was closer. He hoped the anticipations of the President, regarding the future of the College would be realized. He heard of a London footman who when he remained in indifferent ease when the bell was rung, and was asked if he intended to answer it, replied "p'raps I will if they persewure." So if the friends of the College "presewured," they need not fear about raising the required endowment. He hoped the benefactions of the friends would not be like that of a man who left large sums to this, that and the other institution, but spoiled the whole by a codicil in the will to the effect that he had no money. He had learned since coming to Canada that "subscribing" and "paying" were different things, but he hoped there would be no difference between subscribing and paying in the case of the "endowment fund." He suggested to the wealthy Mayor and the others that to subscribe and pay to the "fund," would be a good way to get rid of their superfluous cash. He desired to say a few words of encouragement to his friends who had that day changed schools. Their education was just beginning. In the school of the world they will find their labours harder, and their liberties fewer, but the rewards for diligence and industry would be greater. The Roman painter took for his motto, "no day without its line," so they should let no twenty four hours pass over their heads without being able to record something to their temporal or spiritual welfare and the elevating and ennobling of the world itself. In their late school they obtained chiefly knowledge; in the school they were just to enter they would have to get wisdom. One was of little avail without the other. Nothing was greater than knowledge, except to know how to use it aright. "Whatever was worth doing at all was worth doing well." If they studied Law, let them be the best lawyers—the *best* not the *sharpest*, and whether healers of the body or of the mind, let them be the best of their profession. Then should some great revolution, social or political, deluge the world, he could see some brave hearts like Ararat tops raising their heads above the crested waves of turmoil. He would advise them to aim high. Some one had said that he who always aims at the sky will hardly hit the lower level of the trees. Let them develop by practice the faculties God had given them, as the Greeks by their Olympic games, developed to marvellous perfection their physical powers. "Green" had been euphoniously applied that day! he would say that all the visions of youth were surrounded with the *greenness* of summer, a kind of Saturn's ring encircling the objects and aims of life with brilliant coruscations. But they should not in their high aims become pedants and prigs, railing at all things venerable, they should not break the bruised reed nor quench the smoking flax, but they should if possible strengthen the reed to the firmness of the oak and gently fan the smoking flax till it burned with a flame of heavenly brilliancy.

The Conversazione and Promenade Concert surpassed the most sanguine anticipations. At one end of the room was the famous Mendelssohn Quintette Club, and at the other the Band of the 4th Battalion, under the leadership of Prof. Chalaupka. At a seasonable hour the company broke up, mightily pleased, and no doubt inspired, delighted, and refined by the treat.—*Cobourg Sentinel*.

V. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for APRIL, 1872.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—J. M. Buchan, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., L.L.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	Eleva- tion ft.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.				TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.			
		MONTHLY MEANS.		Range. Greatest in 24 hours.		Lowest.	Highest.	MONTHLY MEANS.		DAILY RANGE.		Highest.	Lowest.	MONTHLY RANGE.		Warm- est Day.	Coldest Day.	MONTHLY MEANS.	
		7 A.M.	1 P.M.					7 A.M.	1 P.M.	Least.	Greatest.			Date.	Date.			A.M. 1 P.M.	9 P.M.
Pembroke.....	45-50-77-10	428-29-843	29-3-4	29-338	29-3319-29-717	7 a.m.	29-28-722	7 a.m.	1	995	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall.....	45-0	74-50-137	775-29-7834	29-7111	29-7365	29-7464	30-140	7 a.m.	29-29-150	7 a.m.	29-29-150	7 a.m.	29-29-150	7 a.m.	29-29-150	7 a.m.	29-29-150	7 a.m.	29-29-150
Barrie.....	44-25-79-45	59	779-28-8223	28-8044	28-7770	28-7644	29-285	7 a.m.	4-23-071	9 p.m.	25	1-104	778-24	25-55-60-47	11-37-0	83-90-51	32-25-23-26	91-44-2	25
Peterborough.....	44-20-73-25	670	59-24	29-167	29-149	29-203	29-876	7 a.m.	10-23-711	9 p.m.	12	945	706-18	19-38-15-46	7-33-39	40-76-51	87-26-50	23-58-1	25
Belleville.....	44-10-77-52	72	807-29-6646	29-6383	29-6439	29-6139	30-012	7 a.m.	2-29-193	7 a.m.	9	819	628	1-285-9-46	10-40-33	40-51-74	30-20	21-15-33-8	25
Goderich.....	43-45-81-42	71	715-29-2116	29-1992	29-1928	29-2045	29-607	7 a.m.	4-23-618	7 a.m.	9	869	549-10	1-115-48-45	09-41-55	41-43-50	28-29-46	20-42-36-2	21
Stratford.....	43-25-80-54	90	1182-28-7066	28-4398	28-4925	28-6063	29-067	7 a.m.	4-23-168	7 a.m.	9	889	530-10	1-116-23-43	05-40-05	40-70-63	18-30-68	1-49-31-4	30
Hamilton.....	43-12-79-50	90	824-29-597	29-563	29-581	29-582	29-637	7 a.m.	4-29-052	1 p.m.	9	905	505-10	1-1183-36-47	19-42-17	42-73-52	12-33-64	18-47-1	25
Simcoe.....	42-51-80-14	150	716-29-0831	29-0077	29-0142	29-0183	29-353	7 a.m.	4-28-499	7 a.m.	9	854	631	8-939-53-52	14-43-64	45-10-60	15-34-31	25-64-45-9	.....
Windsor.....	42-20-83-00	.....	670-29-3601	29-3213	29-3411	29-3438	29-751	7 a.m.	4-28-811	7 a.m.	9	940	508	15-1641-53-55	95-43-41	40-50-52	84-10-25	42-38-9	23

Approximation. dOn Lake Simcoe. eNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. hOn Lake Erie. iOn the Ottawa River. jClose to Lake Erie. mOn the Detroit River. kInland Towns.

* No observation on 6th and 6th, imperfect observation on 4th.

STATION.	HUMIDITY OF AIR.		WINDS. NUMBER OF OBSERVATIONS.										ESTIMATED δ VELOCITY OF WIND.				AMOUNT OF CLOUDINESS.				RAIN.				SNOW.		AURORAS.																																																																																																																																																																																																																																																																																																
	MONTHLY MEANS.		SURFACE CURRENT.					MOTION OF CLOUDS. &					MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.																																																																																																																																																																																																																																																																																										
	7 A.M.	9 P.M.	North.	North-East.	East.	South-East.	South.	South-West.	West.	North-West.	Impercept.	Clear.	Total.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	No. of Rainy Days.	Duration in hours.	Depth in inches.	No. of Snowy Days.	Duration in hours.	Depth in inches.	Total Depth of Rain and Snow.	Class I.	Class II.	Class III.	Class IV.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	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Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.	Sky unfavorable.

* Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

REMARKS.

Pembroke.—Wind-storm, 13th. Snow, 13th. Rain, 12th. CORNWALL.—On 3rd, Wild ducks seen. 5th, Robins. 8th, Black-birds and Swallows last sleighing. 15th, Lunar halo. 30th, solar halo. Wind-storms 1st, 13th, 22nd. Snow, 1st, 14th, 16th, 22nd, 24th. Rain, 9th, 10, 13th, 22nd. PETERBOROUGH.—On 10th, hail. 15th, circle round sun at 5 p.m., and round moon at 9 p.m. 30th, first wild flowers in full bloom. Wind-storms, 9th, 21st. Fog, 8th. Snow, 1st, 2nd, 10th, 22nd, 23rd. Rain, 7th, 9th, 10th, 12th, 14th, 21st. Heaviest fall of snow since January 1st on 1st instant (depth, 9-166). BELLEVILLE.—Wind-storm, 1st, 26th. Fog, 9th. Snow, 1st, 23rd. Rain, 8th, 9th, 12th, 22nd. Greater depth of frost than usual this winter; the navigation between Belleville and Kingston not resumed till 27th instant, an unusually late period. GODERICH.—On 1st, Robins and other summer birds in considerable numbers. 4th, meteor at 9th p.m., about the size of a man's fist, fell 8 E., leaving behind it a train of light. 8th, ice in bay beginning to move about in large fields. Maitland River entirely clear of ice. 28th, boats

left harbour for first trip—ice moving out. 30th. ice all gone. 12th, 30th. 31st, lightning and thunder with rain. Wind-storm. 30th. Fog, 24th. Snow, 21st 23rd. Rain, 2nd. 8th, 9th. 11th 12th, 20th 21st, 23rd, 30th. STRATFORD.—On 6th. wild pigeons seen. 20th, frogs first heard 14th. mill pond free from ice. 12th and 30th, lightning and thunder with rain. Wind-storms, 12th. 13th. 21st. Fog, 8th. snow, 10th. 13th 15th. 22nd. 23rd. Rain, 6th, 7th. 9th, 12th, 21st, 23rd, 30th. Difference of mean temperature for month from average of 11 years:—1°16.

HAMILTON.—On 4th, grass beginning to be green. 5th, garden phlox and wild hepatica above ground; corona (large) around sun visible to the unprotected eye at 1 p.m. 8th, *Rumex crispus* above ground. 9th, tulips above ground; pigeon shooting. 10th. flower bud of wild hepatica, planted in garden, ready to open. 11th, *dicentra spectabilis* above ground; ducks have been seen for several days; navigation open; the first silver maple in blossom. 15th, corona 33° in diameter around moon. 17th, hepatica in blossom. 22nd, hepatica in woods, *acer rubrum*, *populus tremuloides* and *alnus incana* in blossom; capsules of *Weisia viridula* developed. 29th, *Salix humilis*, *Corylis rostrata* and *Shepherdia Canadensis* in bloom; also *ulmus americana*. On 9th. a case of complete saturation at 7 a.m., the thermometers when corrected being at 41°8. Lightning and thunder with rain, 30th. Wind-storms, 9th 10th, 13th. 25th. Fogs, 7th, 8th. 24th. Snow, 10th, 14th. 15th, 22nd. 23rd. Rain, 5th, 6th, 9th, 12th, 20th, 21st, 23rd, 30th. A very dry April.

SMOOS.—Lightning and thunder with rain 30th. Wind-storms, 9th, 10th, 13th, also stiff gales on other days (equinoctial). Fog, 8th. Snow, 15th. Rain, 6th, 13th, 20th, 30th. A fine month, the heat abnormal. Navigation opened earlier this year than usual in consequence of the extraordinary heat of the month of April.

WINDSOR.—On 1st, meteor in Z. towards N. W. 9th, lake open to navigation. River open some time before. Lunar halo on 14th, 16th, 17th, 19th, 20th, 24th. Wind-storms, 1st, 2nd, 8th—10th 12th, 13th, 15th, 21st. 30th. Fog, 8th. Snow, 15th. Rain, 6th, 7th, 9th, 12th, 18th, 20th, 21st, 27th, 30th. Hail, 15th. Lightning and thunder with rain, 12th, 20th, 30th.

VI. Departmental Notices.

EXAMINATIONS FOR ADMISSION OF PUPILS TO THE HIGH SCHOOLS AND COLLEGIATE INSTITUTES OF ONTARIO.

In accordance with a general wish, as expressed last year and concurred in by the Council of Public Instruction, an examination of pupils for admission to the High Schools and Collegiate Institutes will be held (D.V.) in each High School or Collegiate Institute District, commencing on Thursday, 10th of October, at 9 a.m., and may be continued during the following day. Candidates must notify the City, County or Town Inspector (as the case may be) not later than the 15th September, of their intention to present themselves for examination; and the Inspector will inform the Department not later than the 20th of September, of the number of candidates for admission, as the examination papers cannot be printed off until this information shall have been received from every one of the Inspectors. An omission of one Inspector in this matter, beyond the time specified, may delay the printing and despatch to the Inspectors, of the examination papers.

County Inspectors are members only of Boards of Examiners for admission to the High Schools in villages and townships. City and Town Inspectors are members of the Boards of Examiners for admission to the High Schools in such cities and towns.

For this year, these examinations will be retrospective in their effect as regards pupils who entered for the summer term, whose attendance for that term will be reckoned provided they succeed at the examination, and their papers are approved by the High School Inspector. The Examination Papers will be sent to the Public School Inspector, who will be responsible for the conduct of each examination (according to the regulations). Where a County Inspector is also Town Inspector, he will (with the concurrence of his colleagues) arrange for the examination to be held at each school at the time fixed. The Inspector will, immediately after the meeting of the Board of Examiners, at the close of the examinations, and not later than the 20th of October, transmit to the Department the report of the Board of Examiners, and also the whole of the answers of the candidates,—the latter for the examination and approval of the High School Inspectors. The surplus examination papers are also to be returned for binding up.

EDUCATION DEPARTMENT,
24th August, 1872.

PUBLIC SCHOOLS OF ONTARIO.—PRIZES FOR RURAL SCHOOL-HOUSE PLANS.

With a view to improve the school accommodation in the various rural school sections, and to act as an incentive, as well as to aid trustees in the matter, the Department of Public Instruction will pay to any Inspector, Trustee or Teacher, the following prizes for ground plans of school-houses, and for block plans of school sites which may be found best adapted to rural school sections, viz. :—

I. *For the best ground plan of a rural School-house* (on the scale of eight feet to an inch).—1. For the best first floor (ground) plan of a rural School-house, with porch, cap and cloak room, map and book presses, teacher's accommodation, etc., capable of accommodating 60 to 75 children, \$15; 2. Ditto, with at least two rooms, 100 to 125 ditto, \$20; 3. Ditto, with at least three rooms, 150 to 175 ditto, \$25.

II. *For the best Block Plan of a School Site* (on the scale of forty feet to an inch).—1. For the best block plan of a school site, of an acre in extent. Position of school house, wood shed, privies, well, fence, play ground for boys and for girls, shade trees, etc., to be marked on the plan, \$20; 2. Ditto, of half an acre, \$15.

The plans to be neatly prepared in ink and to be accompanied by full written explanations. They are to be marked by some word or motto, the key to which is to be enclosed in an envelope, which will be opened after the prizes shall have been awarded.

Plans, etc., to be addressed to the Rev. Dr. Ryerson, Chief Superintendent of Education, not later than the 15th of November next.

The prize plans will be the property of the Department, and will be required for publication in the JOURNAL OF EDUCATION.

PROVINCIAL FIRST CLASS CERTIFICATES.

Forty teachers competed for first class certificates, at the examinations held in the county towns throughout Ontario, on the 23rd, 24th, 26th and 27th July. The examinations were conducted in the presence of the County Inspectors on papers furnished by the Central Committee. The following candidates were awarded certificates on the 2nd instant, by the Council of Public Instruction:—First class, grade A.—Messrs. Wm. J. Carson, Saml. Emerson, Clarke Moses; first class, grade B.—Messrs. Isaac J. Birchard, John W. Cooley, John Dixon, Alfred Goodbow, John Macdonald Mackie, W. R. Telford, Miss Phoebe J. Johnston. Of the successful candidates, seven were trained in the Normal School, Toronto.

MEM.—There are three other candidates whose papers came in late, and will be considered by the Committee the first week of September.

IN THE PRESS.

THE ONTARIO SCHOOL LAW,

Relating to County Councils—Township Councils—City, Town and Village Councils—Township Boards—Union School Sections—Arbitrations in regard to School Sites—County, City and Town Public School Inspectors, Boards of Examiners, &c., &c., being Part II. of School Law Lectures. By J. GEORGE HODGINS, LL.D., Barrister-at-Law. Price 75 cts.; by Mail, 80 cts.

COPP, CLARK & Co., King Street East.

Toronto, 1872.

MCGILL UNIVERSITY, MONTREAL. SESSION 1872-73.

THE CLASSES IN THE SEVERAL FACULTIES will open as follows:—

FACULTY OF ARTS, September 16th.

FACULTY OF MEDICINE, October 1st.

FACULTY OF LAW, October 1st.

The Department of Practical Science in the Faculty of Arts, including Courses in Engineering, Mining, Practical Chemistry and Assaying, September 16th. The Classes in the McGill Normal School will be open on the 2nd September. In the Examinations in the Faculty of Arts, commencing September 16th, the following Scholarships and Exhibitions will be offered:—First Year, 3 Exhibitions—2 of \$125; 1 of \$100. Second Year, 3 Exhibitions—2 of \$125; 1 of \$100. Third Year, 4 Scholarships, tenable for two years, of \$100 to \$125 yearly. The Calendar containing details of all the above Courses may be had on application, post paid, to the undersigned.

July 6.

W. C. BAYNES, B.A., Secretary.

JOURNAL OF

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No. 7.

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PUBLIC SCHOOL-HOUSE ACCOMMODATION.

One of the most valuable features of the School legislation of last year was that which provided for increased School-house accommodation. By a singular oversight, no provision was made in the comprehensive School Law of 1850 for this essential part of our School Economy, nor was it, even, embodied in the School Law Amendment Act of 1860, which was designed to remedy certain proved defects in the law. Indeed, not until after twenty years' experience had demonstrated the want of some general regulation relating to School-house Accommodation being made, did the necessity for a clearly defined regulation on the subject force itself on the attention of our Educationists.

Although some opposition was made, at first, to this most desirable reform, yet on the whole, it has been hailed as a real boon by the vast majority of the trustees. Never was there such singular unanimity on any one subject among the intelligent friends of our improved School System as on this. It has (when proper explanations have been given to the parties concerned) been regarded as a most enlightened step in advance. The provision of the law has been framed, as we think all will admit, in the interests of humanity, cleanliness, order and decency. It is true that in many cases a thoughtless apathy or inattention alone had prevented anything from being done to improve the condition of the school premises; but, in other cases, timidity on the part of the trustees, or the fear of taxation on the part of the ratepayers had paralyzed local effort; and from year to year nothing was done to put the school-house in even a reasonable state of repair. Hence the necessity for the interposition of some higher authority, in the shape of

Statute Law, to rouse public attention to the subject, and virtually to decide the question in favour of the health of the teacher and pupils and the advancement of the school. These were, really, the parties who had suffered so long from local apathy or selfishness, while they were powerless to effect any change for the better.

Were it not vouched for by the written testimony of the Public School Inspectors, who have examined and reported to the Department upon the state of the school houses and premises under their jurisdiction, it could scarcely be believed that trustees and parents would, in so many cases, have allowed their children to congregate, day after day, and year after year, in the miserable hovels which, up to this year had existed as so-called school-houses in many parts of the province. And yet, so it was. Neither the ill health of the teacher, nor the listless faces of the children, added to the warning of medical men, or the counsel of local superintendents, could, in many localities, rouse trustees or ratepayers from their apathy. "Their fathers, or other relations, or friends, had gone to the school, and it was good enough for them." This, or some other valueless excuse, was too often their reply, and hence nothing was done, or would be attempted. Not even, in many cases, would the spirited example of their neighbours in other localities influence them; and often, in inverse ratio to the wealth of the neighbourhood, would the spirit of selfish economy prevail, and even be defended on the plea of poverty!

It is true that many people had no definite idea as to what was actually required to be done, in order to provide what was really necessary to put their school-house and premises in a proper and efficient state. Such people would say: "Tell us what we should do and we will cheerfully do it." "We know that our children and the teachers are sufferers, and that they are not in such a school-house as we should like them to be in. But we do not know the proper size to build the school-house, the space for air which we should leave, or the best way to ventilate the building or premises. If the law or regulations would lay down some definite general rules on the subject, we should be glad to follow them, but we do not like to spend money on a new school-house, and then find that we were all wrong in our calculations on the subject." Such excuses as these were often urged, and they were reasonable in some cases. Trustees, too, would say, when pressed to do something to better

the condition of the school-house: "We would gladly do so, but the ratepayers object to the expense, and we do not like to fall out with our neighbours. If you say that we *must* do it, we will undertake it, for then the responsibility will be on you, and we shall do no more than our duty in complying with the law." Some trustees have felt so strongly the necessity of improving the condition of their school premises, and yet have lacked the moral, and even the legal, courage to do their duty, independently of this pressure, that they have privately intimated their desire to the Inspector that he would enforce the law in this matter in their school section.

It affords us real pleasure to say that, in carrying out the law and regulations on this subject, the Inspectors generally have displayed great judgment and tact. They have even, taken unusual pains to enlist the sympathies and best feelings of trustees and ratepayers in favour of this most needed reform. They have answered objections, smoothed difficulties, removed prejudices, met misrepresentations by full information and explanation, and have done everything in their power to introduce, as suggested by the Department, a gradual change for the better in the condition of the school-house, the outbuildings, fences and premises generally.

As an evidence of the desire of the Chief Superintendent to still further enlist the energies and ability of the local school authorities themselves in this good work, we append herewith a circular issued by him in the last number of this Journal, offering prizes for plans of school-sites and school-houses. It has always been laid down by him, as an essential principle of our School System, that it is after all a more effective means of aiding the people to educate themselves through themselves, than for the Department to attempt it by law or regulation;—and that all that our School System can do is to aid them to do so by providing facilities, and suggesting plans, for doing work in the most efficient manner. In this respect his most sanguine expectations have been fully realized.

At the "Ontario Teachers' Association" held in this city, this year, the following Resolution was unanimously passed. "In the opinion of this Convention, the School accommodation required for the New School Law and Regulations, is under, rather than over, that demanded by health and comfort; as well as the proper organization and discipline of Schools."

1. PUBLIC SCHOOLS OF ONTARIO.—PRIZES FOR RURAL SCHOOL-HOUSE PLANS.

With a view to improve the school accommodation in the various rural school sections, and to act as an incentive, as well as to aid trustees in the matter, the Department of Public Instruction will pay to any Inspector, Trustee or Teacher, the following prizes for ground plans for school-houses, and for block plans of school sites which may be found best adapted to rural school sections, viz:

I. *For the best ground plan of a rural School-house* (on the scale of eight feet to an inch).—1. For the best first floor (ground) plan of a rural School-house, with porch, cap and cloak-room, map and book-presses, teacher's accommodation, etc., capable of accommodating 60 to 75 children, \$15; 2. Ditto, with at least two rooms, 100 to 125 ditto, \$20; 3. Ditto with at least three rooms, 150 to 175 ditto, \$25.

II. *For the best block plan of a School site* (on the scale of forty feet to an inch).—For the best block plan of a School site, of an acre in extent. Position of School-house, wood shed, privies, well, fence, play ground for boys and for girls, shade trees, etc., to be marked on the plan, \$20; 2. Ditto, of half an acre, \$15.

The plans to be neatly prepared in ink and to be accompanied by full written explanations. They are to be marked by some word or motto, the key to which is to be enclosed in an envelope, which will be opened after the prizes shall have been awarded.

Plans, etc., to be addressed to the Rev. Dr. Ryerson, Chief Superintendent of Education, not later than the 15th of November next.

The prize plans will be the property of the Department, and will be required for publication in the JOURNAL OF EDUCATION.

No plans will be received or adjudicated upon, which are not drawn on the scales mentioned.

2. "ADEQUATE SCHOOL ACCOMMODATIONS."

In answer to numerous inquiries as to the law relating to school accommodation, we desire to state that the second section of the School Act of 1871 declares that:—

"Each school corporation (in a city, town, village or rural school section) shall provide adequate accommodations for all the children of school age (from five to twenty-one years, resident) in their school division or municipality."

The regulations, which define what "adequate school accommodations" are, suggest a medium or minimum amount of school accommodation to be provided, as compared with the law and regulations on the subject in other countries. Although the law, as quoted above, is imperative, yet inspectors will exercise a judicious discrimination in enforcing it.

3. CONDITION OF THE SCHOOL-ROOM.

It is very pleasant to go through many of our modern school-rooms and notice the care which has been taken to make everything comfortable and cheerful. The light has been so arranged that the eye is neither dazzled by glare or wearied by gloom; ventilation has been secured in proper kind and degree, so that head-ache cannot often be complained of there; the desks are adapted in height to the size of the sitter, and the chairs have comfortable backs; pictures are on the walls, an attractive library is accessible, and the polished brass and glass, in the case of apparatus, add to the general effect. Would that all school-rooms were comfortable and cheerful! Yet where they are not, much can be done to improve them, and this with but little expense. Even if hard benches and inconvenient desks are the furniture of four bare walls, there may be something done to make the place seem comfortable and cheerful, if actual improvement is impossible.

Let us suppose the worst case possible—possible, I mean, now-a-days, and try to improve it.

1st. Arrange the desks and seats in some way, so that each pupil can find support for his back and rest for his feet. It need hardly be supposed that this is impossible.

2nd. "Tinker" the window frames, so as to be able to lower the upper sash a few inches. Get calico curtains, if there are no blinds; they will cost about ten cents each.

3rd. Cover all holes and ink-spots in the wall with white paper, neatly pasted on; but cover up no dirt which can be washed off. Let the floor be clean and the windows clear.

4th. Tack engravings on the walls, the best you can find; wood-cuts, from newspapers, are better than nothing. Inland boys like ships and steamers, and sea-scenes generally, while boys who live near the coast prefer hunting scenes and rocks and woods. Maps of the country, the State, the county, town, ward and block are desirable.

5th. On the ceiling, draw neatly—in charcoal if you can do no better—the solar system. Make the sun in red chalk; give the planets their relative size and orbits; let a bushy, red-tailed comet enliven the sketch. On the side wall draw a long black line, five and a half yards long, to represent a rod; divide the line into yards, one of the yards into feet, and one of the feet into inches. In various spaces, otherwise unoccupied, draw, distinctly, a square yard, a square foot, a cubic foot, an equilateral triangle, and other similar outlines. Let the walls be covered with instruction and amusement for the eye. At first, these figures will attract attention from studies; but in a few days the novelty will have worn off, and although they may attract, they will not distract.

What a change comes over the dreary old room! What a change over the scholars!

There are many little matters which affect the success of a teacher's daily duties. Is the black-board warped, and cracked, and scratched? Take it down, screw a "cleat" on the back, putty up the crack, and paint it black again. There is no expenditure here of anything but a little labour, except for the paint, and that may be made trifling if a few cents' worth of lampblack, a little camphene, a flannel rag, and ingenuity are used. Perhaps the chalk is "scratchy." Buy some crayons, if you can; if not, make them. Your boys will help you; and, in a few hours, at an expense of half a dollar, you can make enough to last for a whole term, and the improvement will pay you for your trouble. Have a ledge on the bottom of the black-board, to catch the falling chalk-dust, and to hold "the cleaner." The cleaner may be a stick two inches square and six long, wrapped around with cotton flannel.—*Root's "School Amusements."*

VENTILATION OF SCHOOL HOUSES.

It is really astonishing how much ignorance or thoughtlessness there is among teachers even at this late day, about properly ventilating their school-rooms. It would seem that enough had been written and said about this subject, yet if the readers of this magazine will officiate as visiting committee and visit our schools in the winter season, they will learn the rule, and not the exception, is, bad air in the school-room. The construction of the room is faulty, in a majority of instances, but the fact is apparent that teachers do not *practically believe* in ventilation, and do not do the best they can to have good air in the room. To show the bad effects of want of ventilation, I quote from *Mayhew's Universal Education* a short article:

"Both irritability of the nervous system and dulness of the intellect are unquestionably the direct and necessary result of a want of pure air. The vital energies of the pupils are thus prostrated, and they become not only restless and indisposed to study, but absolutely incapable of studying. Their minds hence wander, and they unavoidably seek relief in mischievous and disorderly conduct. This doubly provokes the already exasperated teacher, who, from a like cause, is in the same irritable condition of both body and mind. And what is more natural under such circumstances, than to resort to the use of the rod."

Now, brother teacher, when your school gets very noisy some afternoon, when you have had a good fire and warm room all day, try this experiment: Set every scholar marching round the room, or turn them out of doors for five minutes, then open every window, and when you call them back and you close the windows again, they will be quiet and go to work. Why? Because they have taken a new lease of life. City teachers are familiar with this, but many of our common country schools suffer more than can be calculated from the want of pure air, of which such an abundance is all about them out of doors.—E. S. M., in *Maine Journal of Education*.

I. Papers of the recent Examinations.

To the Editor of the Journal of Education.

SIR,—In the June number of the *Journal*, I gave solutions of the questions proposed, in Algebra and Natural Philosophy, to candidates for First Class certificates at the recent Examination of Public School Teachers. Owing to my absence from town, I had no opportunity of correcting the press; and I find that the discussion of one of the questions in the Natural Philosophy paper appears in a somewhat unintelligible form, in consequence of a confusion in the letters employed. I refer to the 3d question, of which I gave two solutions. In the first solution, in the expressions, "the forces represented by P A and P B," and "of which A P and B P are adjacent sides," P should be changed into D. The confusion in the second solution is such, that perhaps the simplest course is to give the whole de novo.—Draw C F perpendicular to A D, and C E to B D. Then, since the lever is at rest, the force at A, multiplied by C F, is equal to the force at B, multiplied by C E. That is

$$D A \times C F = D B \times C E.$$

Therefore, triangle A C D = triangle B C D. \therefore A C = B C.

In the solution of question 4, a misprint occurs, which I should also like to correct. Instead of "uniting in the direction B A, and uniting in the direction A B," read "one acting in the direction B A, and one acting in the direction A B."

In question 7, it is put for 1; but this can create no difficulty.

I am Sir,

Yours truly,

GEORGE PAXTON YOUNG.

Toronto, 12th September, 1872.

SELECTIONS FROM RECENT MISCELLANEOUS EXAMINATION PAPERS.

ETYMOLOGY AND SPELLING.

FOR 2ND AND 3RD CLASS TEACHERS.

1. Correct, where necessary, the spelling of the following words:—paroxysm, miniature, mischievous, delapidate, alkemy, abscissa, harpsicord, acheive, yoeman, beverage, obliquy, catiff.
2. Attach roots to the following prefixes, exhibiting, when possible, change made in prefix for the sake of euphony:—ad, re, inter, trans, con, in, syn, amphi, hyper, sub.
3. Mention prefixes, each in combination with some word, which denote negation and destitution in place or time.

4. Give words in which the following affixes appear, and state the force of each affix:—"ster," "mony," "ric," "ion," "ency," "tude."

ADDITIONAL FOR SECOND CLASS CANDIDATES.

5. Give the adjectives of Latin derivation corresponding to the following nouns:—Dog, head, house, friend, step, light, law, rest.
6. Trace the following to their Greek roots:—Rhetoric, crypt, nautical, cosmogony, ephemeral, asteroid, polity, telegraph.
7. Give words—two in each case—derived from these Latin roots:—Faber, fruor, integer, licet, plico, salio, voveo.

ENGLISH GRAMMAR.

2ND AND 3RD CLASSES.

[Second Class will omit 1, 4, 6, 7, and 11]

1. Name the four great divisions of Grammar, and state the province of each.
2. Define CASE, PERSON, VOICE, MOOD, and TENSE.
3. Form abstract nouns from the following adjectives: pure, brief, slow, dear, intricate.
4. Name and distinguish the plurals of nouns which have two forms of the plural with different signification.
5. Write the plurals of the following: staff, potato, canto, grotto, attorney, seraph, cousin-german, medium, stamen, appendix, thesis, chrysalis.
6. Of the following adjectives compare such as are capable of comparison: cool, late, happy, perpendicular, many, triangular.
7. Name the distributive and the indefinite pronouns.
8. How is the verb inflected? Name the moods, and state the force of each.
9. Quote the rules of syntax which the following sentences are severally intended to exemplify:
 - (a) Give us this day our daily bread.
 - (b) The youth of this country are well educated.
 - (c) The horse and the man that we met.
10. Parse the following sentence, and change the active into the passive construction.

"His love of change drove him a pilgrim to the Holy Land."
11. Analyze the following: "Stimulated in turn by their approbation, and by that of better judges, he turned to their literature with redoubled energy."

ADDITIONAL FOR 2ND CLASS.

12. Give rules for the proper use of "shall" and "will."
13. Form or quote sentences to illustrate:
 - (1) The restrictive and the connective force of the relative pronoun.
 - (2) The twofold form of the cognate object.
14. Examine the correctness of the following, giving, in each case, your reason for retaining or altering the construction:

"The nations not so blessed as thee
Must in their turn to tyrants fall."—Thomson.

"In reality more than one principle has been contended for at one time."—Arnold.

"Every street and square in Dresden was by this time crowded with troops."—Alison.

"At an hour
When all slept sound, save she who bore them both."—Rogers.
15. Analyze the following:

"Fancy had cast a spell upon the place
And made it holy; and the villagers
Would say that never evil thing approached
Unpunish'd there. The strange and fearful pleasure
That filled me by that solitary spring
Ceased not in riper years; and now it woke
Deeper delight and more mysterious awe."—Southey.

ENGLISH GRAMMAR AND ETYMOLOGY.

FIRST CLASS.

1. Give reasons for regarding the Article as an Adjective.
2. Give, as fully as you can, the Syntax of the possessive Case.
3. Parse the italicised words in the following sentences.
 - (a) No amount of experience will teach them wisdom.
 - (b) Lepidus flatters both,
Of both is flattered; but he never loves,
Nor either cares for him.
 - (c) Villain, knock me at his gate,
And rap me well.
 - (d) Whom he would he slew.

- (e) Forthwith, on all sides, to his aid was run
By angels many and strong.

4. Correct or justify the following, giving, in each case, your reason:—

- (a) The great triumphs of modern ingenuity and art are those astronomical clocks and watches, in which the counted vibrations of a pendulum or balance-wheel have detected periodical inequalities even in the motion of the earth itself.—*Arnot*.
(b) Language consists not of single words, no more than a ship consists of trees.—*Penny Cyclopaedia*.
(c) To see distinctly the right way, and to pursue it, are not precisely the same thing.—*Hall*.
(d) He that outlives this day and comes safe home.—*Shakespeare*.
5. Explain the figures Syncope, Paralepsis, Pleonasm, indicating the class to which each belongs; and distinguish Barbarism and Solecism, Simile and Metaphor.
6. What figures occur in the following:—
(a) Death is Sin's eldest daughter.—*Jeremy Taylor*.
(b) I die, I faint, I fail.—*Shelly*.
(c) Holy and humble men of heart.—*Isaiah*.
(d) An upright minister asks, what recommends a man; a corrupt minister, who.—*Colton*.
7. Give specimens of the Iambus, Trochee, and Amphibrach, and scan the following:—

(a) Through the depths of Loch Katrine
The steed shall career.

(b) Leave the deer, leave the steer,
Leave nets and barges.

(c) Why Jove's satellites are less than Jove.

8. Analyze the following:—

Branches they bore from that enchanted stem,
Laden with flowers and fruit whereof they gave
To each; but whoso did receive of them
And taste, to him the gushing of the wave,
Far, far away, did seem to mourn and rave
On alien shores; and, if his fellow spake,
His voice was thin, as voices from the grave;
And deep asleep he seemed, yet all awake,
And music in his ears his beating heart did make.

Tennyson—Lotus eaters

9. What is meant by Historical Etymology?
10. Derive the following—Mechanics; politics; Cambrian; meander; tantalize; April; Thursday; furlong; fathom; pilgrim; vintage; sarcasm.
11. Give the Etymological Analysis of the following words, mentioning, in each case, prefix or affix, root, literal meaning, and ordinary signification:—Discussion; expressed; adventure; condolence; hypocrite; expedite; atonement; accuracy; cemetery; extravagant; trespass; dilapidation.
12. Give the historical analysis of the following passage:—
We feel the strength of mind through the beauty of the style;
we discern the man in the author, the nation in the man, and
the universe at the feet of the nation.

ECONOMY OF THE HOUSEHOLD.

2ND CLASS.

(This Paper may be taken, instead of Euclid, by Female Candidates.)

1. Illustrate the importance of "intelligence, economy and industry" in the management of a household.
2. Describe the best arrangement for the dairy, as to the building or room used for the purpose; temperature; and pans to receive the milk. Why should not the milk-pans be set on the bottom of the cellar.
3. (a) In churning, what temperature may be expected to give "the greatest quantity of butter of the best quality"? (b) What effect is produced by the application of warm water and by violent churning? (c) Describe the process of working the butter, and show that "a large sponge, covered with a clean cloth, may be used to great advantage."
4. (a) Explain the action of the yeast in making bread. (b) What is said of the bran with reference to nutritious property?
5. "If meats are to be boiled, they should be put at once into boiling water; if they are to be roasted, they should be exposed at once to a quick fire." Why should this be done?
6. Describe the best method of boiling potatoes.

BOTANY AND PHYSIOLOGY.

2ND CLASS.

1. What are the different parts of a plant? Describe the functions of each part.
2. State all the ways by which an Exogenous stem may be distinguished from an Endogenous.
3. Describe the functions of leaves. What is the cause of their fall in Autumn? Draw and describe a maple leaf.
4. Name the different parts of a flower, and describe the use of each part. Draw a diagram showing a stamen and a pistil and the parts of each.
5. What is the fruit? Why do some fruits fall from the stem more easily than others?
6. Of what does the food of plants consist? In what forms and by what organs is it taken up, and how assimilated? Name the substances inhaled and those exhaled by plants and the uses of each in the economy of nature.
7. Describe fully the process of grafting. What conditions should be observed as to species, constitution, adhesion of parts &c.
8. Describe the organs of respiration.
9. Show clearly the effects of impure air upon the brain and nervous system.
10. State, with reasons, the kind of food suitable for the inhabitants of high Southern latitudes.

NATURAL HISTORY, BOTANY, AND AGRICULTURAL CHEMISTRY.

2ND CLASS.

(Special Paper—optional.)

1. Give some account of the whalebone whale. Name the trade products we obtain from it, stating the purposes which each of these serves to the animal.
2. What is meant by Passerine birds? Draw the beak and foot of one of them, and give an account, from your own knowledge, of some of the birds belonging to this group.
3. What is meant by the term insects? Describe the transformation of a silkworm.
4. Describe the structure and mode of growth of the exogenous and the endogenous stems.
5. Describe a maple leaf, with special reference to its form, parts, and venation.
6. Pulse family, order Leguminosae,—how distinguished? Give examples of its usefulness to man.
7. Name the different kinds of manures, and state under what circumstances each should be used.
8. On what fact is the theory of the rotation of crops founded? Give a rotation suitable for light lands.
9. "The proper care of stock is vital to the success and interests of the farmer"—state the principal things necessary to the proper care of the stock.
10. What plants are used in arts and manufactures, and which of them are cultivated in Canada?

BOTANY AND AGRICULTURE.

1ST CLASS.

1. Give an outline of the classification of the vegetable kingdom according to the natural method, proceeding only to the classes and great sections.
2. Give illustrations of each of the following terms: Runner, sucker, stolon, corymb, irregular flower, compound pistil, compound leaf.
3. How would you distinguish between a root and a stem?
4. Explain clearly the technical terms in the following description of the maple sub-family: flowers generally polygamous or dioecious, regular. Petals, often none, but calyx sometimes petal-like. Stamens, 4 to 12. Styles, 2, united below. Fruit, a pair of keys, united at the bottom. Leaves opposite.
5. Name the families to which the following belong, giving the distinguishing characteristic of each: turnip, radish, pea, apple.
6. State the advantages of draining. In heavy soils what is the proper depth for drains, and how far should they be apart?
7. What is gypsum? On what kind of crops does it produce the greatest effect. Give reasons.
8. What are the defects of (1) heavy soils, (2) sandy soils? State how these defects may be remedied.
9. Name the best soils for the following crops: wheat, barley, oats.
10. Give a rotation of crops suitable for heavy soils.

NATURAL HISTORY AND PHYSIOLOGY.

1ST CLASS.

1. How would you distinguish between the flying opossum and the flying squirrel? The dolphin and the porpoise? The dromedary and the camel?
2. What families are comprised under the term *Pachydermata*? State how you would distinguish between the Indian and the African elephant.
3. What are the leading characters of Ruminants? Describe and illustrate by a diagram the stomach of a Ruminant.
4. Sketch the skull of a Rodent.
5. State briefly the characteristics of the Carnivora. Into what groups are they divided? Give a characteristic example of each group.
6. Give a full account of the structure of the bird. Name the orders into which birds are divided, and the leading characteristics of each order.
7. How are fishes classified? What is peculiar to their structure?
8. Give a diagram of the human heart, and describe fully the circulation of the blood, stating when and by whom discovered.
6. Describe the parts of the human ear, and the use of each part.
10. A person has received a cut from which the blood is rapidly flowing: how would you determine whether the blood is flowing from an artery or a vein, and how would you proceed to stop it in each case?

PRINCIPLES OF VOCAL MUSIC AND LINEAR DRAWING.

2ND CLASS.

1. Explain the terms "acute" and "grave" applied to the scale in music.
2. How would you explain to a class the duration of notes or rests.
3. State the most important points to be observed in singing.
4. Explain the terms "Adagio," "Andante," "Allegro," "Presto," "Pause."
5. (a) What is a fifth? (b) Do two notes a fifth apart occupy a similar or dissimilar positions on the staff? (c) What is an imperfect fifth?
6. Explain OBLONG, RHOMBOID, DIAGONAL.
7. Delineate a kite with mathematical accuracy.
8. Show by a drawing that triangles on the same base, and between the same parallels, are equal.
9. Why does not a bridge, when properly built, fall in? Make a drawing of such a bridge.
10. Distinguish between an oval and an ellipse.

EDUCATION AND SCHOOL LAW.

3RD CLASS.

1. What is education? How does it differ from instruction.
2. What is meant by the organization of a school?
3. How would you proceed to organize a school assembled for the first time.
4. Give notes of an *introductory* lesson in fractions.
5. How would you describe the nature of a map to a class beginning Geography.
6. Illustrate the maxim "The teacher makes the school."
7. Rapidity and indistinctness are common faults in reading; how are they to be corrected?
8. State the principal duties of Public School Teachers, as laid down by Statute Law.
9. What is the general principle on which discipline is to be administered and maintained in a school by a teacher, as laid down in the Official Regulations.

EDUCATION.

2ND CLASS.

1. Give a general description of the interior of a rural school house for fifty pupils, as regards dimensions, number of rooms, furniture and apparatus.
2. Sixty children who have never before assembled together are placed under your care for the first time; how would you proceed to organize the school?
3. Should you use text-books in beginning a subject with young children? Give reasons.
4. Show how you would begin the following subjects: Grammar, Composition, History.

5. Draw up notes of a lesson on the following subjects: (1) *The Sheep*; (2) *Salt*; (3) *Self-help*.
6. Show to what extent you consider the "lecture system" may be employed in a school.
7. Give an outline of the method in which you would combine *lecturing* and *questioning* in education.
8. Point out any common defects in teaching arithmetic.

EDUCATION.

1ST CLASS.

1. How would you organize a school of 60 children of ages varying from 7 yrs. to 13 yrs., supposing you had one capable assistant? Draw a plan of the school-room you would prefer, showing the arrangement of the classes and the seats and desks.
2. State the principal characteristics of good reading. What are the difficulties encountered in teaching a young child to read? How may these be overcome?
3. Describe fully (illustrating by an example) how you would teach a class *Long Division* so that they might see the reason of every step.
4. In what manner should you propose to teach the elements of grammar? Give reasons.
5. Draw up notes of a lesson on the following subjects for your most advanced pupils:

Botany	Subject	<i>The Flower.</i>
Natural History	"	<i>Birds,</i>
Geography	"	<i>Climate.</i>
6. State what you consider to be the best means of attaining the following objects in school.
 1. Securing attention.
 - " Order.
 - Exciting interest in study.
7. "The study of mathematical science can be of little or no use as an exercise of mind because its *principles* and *process* of reasoning are self-evident." Examine this statement.
8. What are the most important statistics to be recorded in a school.
 1. To aid the teacher in his work.
 2. For the information of the school authorities.

Exhibit tables such as would be suitable for both purposes.

SCHOOL LAW OF ONTARIO.

2ND CLASS.

1. Give examples of the four classes of persons disqualified from holding the office of Public School Trustee.
2. Illustrate five out of the seven ways in which the office of Public School Trustee may be vacated.
3. Mention some of the provisions of the law in regard to the (1) erection, (2) repairs, and (3) use of the school-house of a section.
4. Distinguish (if any difference exist—and if so, what?) between the powers and duties of a Public School Meeting, and those of Trustees in regard to (1) the employment of a teacher, (2) the purchase of maps, apparatus, (3) library and prize books, and (4) the use of authorized, or unauthorized text-books.
5. What are the duties of a Secretary-treasurer, and what penalties (if any) attach to the non-performance of duties, or faithlessness in the discharge of them?
6. State where only can "inequality of assessment" arise; and what are the provisions of the law in regard to an "undivided lot."
7. Summarize the difference between the powers and duties of Masters and Assistant Masters (if any exist) in regard to (1) the "General Principles of School Government," (2) "Exercise of Discipline," (3) "Suspension," and "Expulsion" of Pupils, and (4) "Modes of Teaching."
8. State what is the essential difference in the principle on which prizes are given on the authorized "Merit Card" system, and that of awarding them on the result of a Competitive examination. Give illustrations of the effects of each principle.
9. Explain fully the provisions of the law and regulations in regard to Superannuated Teachers.

SCHOOL LAW OF ONTARIO

1ST CLASS.

1. Give a summary of the provisions of the law and decisions of the Superior Courts in regard to the "Personal Liabilities of Public School Trustees," and mention how that responsibility can be enforced.
2. Mention some of the general powers, liabilities, and disabilities of School Trustee Corporations.

3. In how many ways can trustees obtain moneys for the support of their school?—distinguishing the sources from which these moneys are obtained.
4. Mention four out of the five purposes or objects for which Trustees cannot lawfully impose an assessment.
5. In making out the Collector's Roll, how must the Trustees be guided in regard to (1) mistakes or omissions in the Township Assessment Roll, (2) inequality in the assessment of the Union Sections, (3) an "undivided lot," (4) two or more "owners," and (5) "unpatented land"?
6. In what respect do the provisions of the new law differ from the old, in regard to the formation and alterations of School Section, and Union School Section boundaries?
7. How can trustees collect School-rates from (1) "non-residents" of their Section, and (2) "unknown owners"?
8. Distinguish between the "lawfulness" and "expediency" of trustees' School expenditure?
9. What are the powers and duties respectively of School Auditors, Public School Meetings, and County Inspectors, in deciding between the "lawfulness" and "expediency" of a School expenditure.
10. Mention the cases in which "arbitration" has been abolished and retained in the School Law; and give a summary of the law in regard to arbitrations and awards.
11. What are the provisions of the law and regulations affecting teachers in regard to (1) Holidays and Vacations, (2) Visiting Schools, (3) Teachers' meetings, and (4) Discipline in the Schools.
12. Point out fully what are the powers and duties of "Inspectors" under the new law, as distinguished from those of "Local Superintendents" under the old law.
13. Classify the powers and duties of County, Township, and City Councils, in regard to the Public Schools, and shew in what respect they differ, especially in financial matters.
14. Mention the cases in which the law is "permissive" and "obligatory" on Township Councils in providing moneys for school trustees upon their application.
15. On what grounds can you defend the "compulsory" feature of our system, as a complement to Free Schools; and state how the "compulsory" provisions of the law can be best carried out.
21. What are your views about favourites in school?
22. Give your views of corporal punishment. Can it be dispensed with?
23. How do you prevent tardiness and absence?
24. Should the teacher have a uniform method in opening and closing school? What is your method?
25. How would you teach your pupils in composition?
26. What should be the teacher's leading motive in his work?
27. What are the objects of study?
28. What are the objects of recitation?
29. What is true education?
30. What do you think of teacher's institutes?
31. Of what items should a teacher keep a record in the school registrar?
32. Give the characteristics of a satisfactory answer?
33. Why should the teacher aim to make his school govern itself?
34. Give such a programme as you would use for daily exercises and recitations?
35. Would you have certain recitations assigned for the early part of the day, and others for the afternoon, and if so, why?
36. Give your reasons for and against the self-reporting system.
37. How do you reform a pupil who is inattentive in recitation?
38. How do you deal with a pupil who uses profane language?
39. In reciting, when should pupils use their own language, and when the word of the text-book?
40. What means do you adopt to make your pupils think?
41. To what extent and how should normal instruction be given?
42. What is meant by the topical method of recitation?
43. What are the advantages of oral instruction?
44. What is the greatest obstacle to good government in school?

II. Mathematical Department.*

MATHEMATICAL NOTES.

J. C. GLASHAN.

MATHEMATICAL: R. S. Finlay, Feby., 1872.—Mr. Finlay is right, as the veriest tyro in mathematics would at once acknowledge. There was no need of authorities, and, besides, *authorities are of no authority* in mathematics. The rule given by the Mathematical Editor of the *Canadian Almanac* is the correct and only one, but he does not know how to apply it, thus showing that he did not appreciate the only point in the question. "Of all four-sided figures of equal perimeter, the square has the greatest area." In arithmetical geometry the figure will be a square in perimeter-units, or a square relative to unit rectangles of a length-unit by a width-unit. The problem considered geometrically is really one in projections, being, "Find the quadrilateral of maximum area in the plane A, whose projection on the plane B shall have a given perimeter." The following is a problem similar in principle, but relieved of the ambiguity lurking in that proposed in the *Canadian Almanac*:—Two persons, A and B, are to mark off a rectangular piece of land to be 500 of their steps in semi-perimeter, A to mark off the front and B the side. Now, A takes but 2 ft. at a step, while B takes 3 ft.; how many steps must each take that the rectangle may be of maximum area? Mr. Finlay would be right answering 250 each (giving a square-in-two-by-three-units), thus actually marking off a rectangle 500 ft. by 750 ft. = 375,000 s. ft. The Editor gives, A 300 steps, B 200 steps, thus marking off an absolute square of 600 ft. by 600 ft. = 360,000 s. ft.

INTEREST THAT IS INTERESTING: J. Cameron, April, 1872.—The problems are simply questions (and extremely easy ones) in annuities, and the formulae for their solution are given in *Sangster's National Arithmetic*, No. II., page 358, and No. VI., page 361. In the former read $v(1+rt)$ for A, to adapt it to the questions proposed. For this change see No. V., page 248.

THE CARPENTER'S SQUARE: J. Ireland, April, 1872.—The method of solution exhibited must appear rather awkward to those accustomed to "rationalize" right-angled triangles. General solution for sides a and b — $\frac{a+x}{b-x} = \frac{m^2-1}{2m}$, m being any rational number,
 $\therefore x = \frac{b(m^2-1)-2am}{m^2+2m-1}$. In Mr. Ireland's problem $a=1$ and $b=2$,
 $\therefore x = \frac{2(m^2-m-1)}{m^2+2m-1}$. And $x < \frac{1}{12}$ but $> 0 \therefore m < \frac{13+\sqrt{698}}{23}$ but $> \frac{1+\sqrt{5}}{2}$. Let $m = \frac{5}{3} \therefore x = \frac{1}{23}$.

The readers of the *Journal* may perhaps here remember that ap-

* All communications for this Department of the Journal are to be sent to Mr. A. Doyle, [Hamilton, Ont.]

QUESTIONS FOR TEACHERS TO ANSWER.

The character of the questions used in any locality for the examination of teachers is a very good key to the standard of education in that locality. The last report of the school commissioner of Ohio gives about fifty pages of questions used in the different counties of the State for examining teachers. They are upon all the common-school branches, and also upon the theory and practice of teaching and school management. From the last-named class we have selected a few from each county. If teachers will give them careful thought and answer them, they will find it an exercise that will do much for their own improvement.

1. State briefly how you would organize your school.
2. How will you secure obedience and respect from your pupils?
3. What special preparation have you made for teaching?
4. What qualifications should a teacher possess to manage a school well?
5. Why do you teach? Do you love the work?
6. What plans would you recommend to create an interest in study?
7. What advantage is there in pupils giving an analysis of their respective lessons.
8. What is your method of assigning lessons?
9. Do you permit your pupils to pass from one lesson to another before they comprehend and master it? Give the reasons for your answer.
10. What means do you make use of, and how do you use them to govern your school?
11. Name five characteristics of a good teacher,—giving reasons for the same.
12. Name three characteristics of a good school,—giving reasons.
13. What ends can be secured by object lessons?
14. In teaching, should rules or processes first receive attention? Why?
15. Give a short account of your method of conducting a recitation.
16. Do you take an educational journal?
17. What works on education have you read?
18. What incentives to study should be used in school?
19. The difference between education and knowledge?
20. Give some of your mode of punishment.

parently there was given no solution of Mr. Ireland's "New Dio-phantine Problem," proposed in the September Number for 1870. I have said *apparently*, for in reality this *new* problem is but another form of the other *new* problem proposed by Mr. Ireland, in the July Number for the same year, and solved in the August Number by Mr. H. G. Kidd, who at the same time, pointed out that the problem is an old "college" one. Mr. Kidd's solution, adapted by multiplying the lengths of the sides into $\frac{130}{1309}$ and subtracting 1 from the first perpendicular, is $\frac{3130}{1309}$ and $\frac{1081}{1309}$, $(+1, +2, +3)$, giving for the new triangles the hypotenuses $\frac{3900}{1309}$, $\frac{4801}{1309}$, $\frac{5858}{1309}$. The value of the problem, even as a mathematical curiosity, is too small to induce me to ask for the insertion of the general solution. The base,

common to the four triangles, = $\frac{8m(m^2-1)\{(m+1)^4-4m^2\}}{\{(m+1)^4-4\}\{(m+1)^4-4m^4\}}$

m being any rational number $> \frac{454 - \sqrt{949}}{230}$ but $< 1 + \sqrt{2}$.

Regarding the "Indian Reserve" problem, I would respectfully suggest to Mr. Ireland that possibly no solution was offered because mathematicians saw merely a particular case of a problem of which the general solution is given as an example of "Maxima and Minima" in some of our college text books. See Todhunter's Diff. Calc. Chap. XVI., Ex. 2. The answer in the proposed case is $2\sqrt{6}$.

Strathroy, August, 1872.

III. Papers on Practical Education.

1. WHAT TO TEACH.

The Rev. Charles Brooks, father of the State Normal Schools in America, was asked by a teacher this question:

"What shall I teach my pupils?"

He answered—"Teach them very thoroughly these five things:

- "1. To live religiously.
- "2. To think comprehensively.
- "3. To reckon mathematically.
- "4. To converse fluently; and
- "5. To write grammatically.

"If you successfully teach them these five things, you will have nobly have done your duty to your pupils, to their parents, to your country, and to yourself."

2. INTEREST RULES.

For finding the interest on any principal for any number of days. The answer in each case being in cents, separate the two right-hand figures of answer to express it in dollars and cents.

Four per cent.—Multiply the principal by number of days to run; separate right-hand figure from product, and divide by nine.

Five per cent.—Multiply by number of days, and divide by seventy-two.

Six per cent.—Multiply by number of days; separate right-hand figure, and divide by six.

Eight per cent.—Multiply by number of days, and divide by forty-five.

Nine per cent.—Multiply by number of days; separate right-hand figure, and divide by four.

Ten per cent.—Multiply by number of days, and divide by thirty-six.

Twelve per cent.—Multiply by number of days; separate right-hand figure, and divide by three.

Fifteen per cent.—Multiply by number of days, and divide by twenty-four.

Eighteen per cent.—Multiply by number of days; separate right-hand figure, and divide by two.

Twenty per cent.—Multiply by number of days, and divide by fifteen.

3. HOW AND WHY, IN ARITHMETIC.

There is a general satisfaction with the *how* of a thing, while the *why* is not inquired about. Yet the "whys" are the mainsprings of thought and action; they are in the van of all progress in science and art; to them we owe our better farming and better teaching; they comprise the intelligence, and are the leaders of society, while the "hows" are satisfied to follow in the ruts of old fogies, or new fogies who can do their thinking. All know how the apple falls, but Newton said, "why?" and Science will honour him through

all time. The why of certain things inspired Columbus till the New World gave him and us the answer.

A teacher was hearing a class in Arithmetic for the first time. An intelligent boy divided $\frac{1}{2}$ by $\frac{1}{4}$ and obtained the quotient $\frac{1}{8}$. "How did you work it?" he asked. "By inverting the divisor," etc., said the boy. "Why?" asked the teacher. "The rule says so." "Why?" "I don't know; I didn't know we were to learn that." It had never occurred to him that he could give the reason for a rule. This was in Illinois, not long since, and too many teachers allow such work to pass. Hence I say these words, hoping that they may help some of them to say "why."

Pupils should be taught, from the first, to look for the cause of things everywhere. Do not bind them down to certain processes, or to accept certain results, because the rule or the book says so. I should lead them to know why the subtrahend must be written under the minuend; why, in Alligation, the cost of the several ingredients must be joined by lines; and why, in Proportion, "we make the larger of the remaining numbers the first term or the second," if there be a reason. Pupils should know why the divisor multiplied by the quotient will give the dividend; why we multiply numerators, etc., in fractions; why we point off a certain number of places in decimals; why the Amazon is so large a river; why Chicago is not at the head of Lake Michigan; why British America is so marshy and wet; and why, in the earlier wars, the armies had a certain line of march between the United States and Canada.

I have given these as representative points. And let the reasoning be clear. It will make no difference with the result whether four be multiplied by five (concrete) or the reverse, but it may make difference with the "why" of it.

Hang this motto over your school-room door: "be able to give a reason for the faith that is in you."—H. in *Illinois Teacher*.

4. TEACHING SPELLING.

Some of the Western Educational Journals have recently been discussing the merits of the different methods of teaching spelling, now most commonly in use. There has been manifested, by several writers, a want of confidence in some of these methods, and especially in those where spelling-books, so called, and oral spelling are discarded. We sympathize, most fully, with those writers, for we are satisfied that most of the teaching at the present day, in this branch, is the departure from the best course. And we are by no means alone in this opinion; for there has been a growing dissatisfaction with the results of spelling, as taught quite generally in our schools. Formerly, spelling was entirely oral, and from spelling-books. Many now discard spelling-books and have all spelling exercises written. We have no hesitation in saying that the change from one extreme to the other, was unfortunate. The results achieved do not recommend the method when used exclusively. We believe the two methods, oral and written, must be combined, and that more prominence must be given to the former, with young pupils, while the latter should receive more attention from pupils further advanced. The orthography of a word must be associated with its pronounced sound, and the earlier this habit is acquired by the young learner, the easier it will be for that pupil to have correct associations formed in regard to the spelling. We believe in spelling-books, for the reason that by the arrangement and classification of words as there found, we can facilitate the formation of the habits above spoken of; and also show the few rules by which the orthography of our language is governed. The practice of assigning a portion of the reading lesson for a spelling exercise is not a good one for children. The argument, usually adduced in its favour, that in such connection pupils see and understand the meaning of the words, at the same time they learn to spell them, is not a correct one; for children do not, until a latter stage in their education, form such habits to any considerable extent. Lessons thus assigned are not usually studied as carefully as those in a spelling-book. All teachers will acknowledge that this is almost universally the case. The most probable explanation of this is to be found in the well-known fact that every word in a spelling-book lesson is usually spelled. The pupil expects that such will be the case, and makes no calculation on the probability that he may be called upon to spell one word rather than another. While in a reading-lesson, assigned as a spelling lesson, many of the words are not spelled, and the pupil knows and calculates upon such a fact. The certainty, in the expectation of the pupil, that every word will be spelled, is the only thing that will secure on his part a thorough preparation of the lesson.

5. SPELLING AS AN EDUCATOR.

With pupils who can write with facility, the spelling-lesson may be made a means of culture. Some one has justly remarked of labour, that he who gets only his pay is cheated. So we regard the

pupil, who has nothing to show for the years of labour bestowed upon spelling, but the mastery of the written forms of words, as certainly cheated. True school-work has in it something for both mind and heart, something which makes wiser and better. The pupil goes from the recitation knowing or feeling something new.

A slavish adherence to the mere letter of the lesson destroys the spirit of culture. It is possible that the child, who learns nothing but spelling from the spelling-lesson, may become a good speller, but it is also possible that he may grow up ignorant, narrow-minded, and even vicious—that is, that, as far as good is concerned, he shall be an uneducated person. Such characters we sometimes meet—dare we say that they are not produced in school?—but we have no desire to increase their number.

We like the skill, but do not wish to purchase it at the expense of character. It is not enough that school-exercises be not bad for the mind and heart; they must be positively good. The primary idea of the school is that of true culture, and not that of technical learning. It is to assist weak and ignorant children to grow up into wise and strong men and women. Every lesson must tend to this end. All school-work should be educative. A word in due season, a remark, a question in the middle of a lesson, brought in as collateral to the subject, may prove of great benefit. All educators insist upon the value of indirect instruction. Experienced teachers have observed the wilfulness of children's minds, and that their attention cannot be forced. We may take advantage of these known characteristics. "Being crafty," let us "catch them with guile."

Our school opportunities of indirect instruction have been, like mountain-streams, running to waste; let us now collect them into one channel, and systematically apply them to the education of our pupils. This exercise shall be known as spelling. As it bears this name, and has no other apparent object than to teach the written forms of words, we have the pupil's mind ready to receive any impressions which we may choose to give. He is free, free to accept or reject anything we give him, and this is the best reason in the world why he should accept it, if it is good. We place food before him, but do not press him to eat. We do not ask whether he has eaten, much less whether he has digested it. We know that if the food is of the right kind, he will eat it, digest it, and it will make him grow. We know, too, that all this goes on best in silence and in secret. The grandest forces of nature are quiet and secret in their operation. With the mysteries of growth she permits no tampering. Such thoughts and perceptions as come unsought, and pass unconsciously into our being, make us what we are. The true educator must be content to labour in secret. He who is willing to walk by faith and not by sight, who is satisfied with the approval of his conscience, and his God, he whose heart's desire is in age to look back upon a life spent in toils for man, he, and he only, is ready to adopt a system of indirect instruction. He who must have immediate applause at any cost, he who has no faith in anything which he cannot see, need consider this subject no further; for "per cents" are no more tests of the work we propose than the ruler and calipers are tests of the effects of beefsteaks. We may make our spelling-lesson tell upon almost any part of the pupil's education. One of the first things of which the teacher would think would be to make the spelling of a language lesson. In this way we may increase the scanty store of words possessed by our pupils, may compare the uses of words, and may practise writing those which are already more or less familiar. Whatever we do, we will proceed from things to words, and from spoken to written words. That is, we will teach spelling objectively. Let us take for example a "Lesson on a Rope." By questions we obtain from the class, say, the following words:

1 rope	5 cable	9 string	13 pack-thread	17 sea-grass
2 strands	6 cord	10 thread	14 cordage	18 linen
3 rope-yarn	7 line	11 wrapping-yarn	15 hemp	19 rope-maker
4 twisted	8 twine	12 wrapping-twine	16 cotton	20 rope-walk

These words are written on slates as fast as they are found. If the class are unable to give a word when asked for, we call especial attention to the idea, and then give the word. If the lesson contains more than two or three new words, it is too hard for the class. The second and third words of our lesson are the parts of which the rope is composed; from the fifth to the thirteenth are the names of things of the rope-kind, ending in cordage, which covers them all. The other words describe materials, and hint at manufacture.

The words written, we correct errors in spelling. Let the first pupil write the first word on the board, and all compare their slates with what he has written. Proceed in like manner with all the words. Practise upon the words as a review lesson till they are fully learned. The skilful teacher will bring this lesson within reasonable limits. The number of words should not exceed

twenty. The words are written in columns and number, but do not begin with capitals unless for reason.—*W. W. in National Teacher.*

6. A MODEL PRIMARY SCHOOL.

FROM A REPORT OF HON. J. D. PHILBRICK, BOSTON.

Go with me into a school kept by one of these meritorious teachers. Observe the condition of the room,—its neatness, order, cleanliness; look into the happy faces of the pupils, reflecting the intelligence and love beaming from the countenance of their teacher. They have evidently come from homes of extreme poverty; but notice their tidiness, and especially the good condition of their heads and hands; and see their position in their seats,—neither stiff and restrained, nor careless and lounging, but easy and natural. The temperature, you will perceive, is what it should be; and the atmosphere uncommonly wholesome for a school-room,—no roasting by stoves, or shivering in chilling drafts of air. What skill and care and patience, on the part of the teacher, have been employed to produce this state of things! Now witness the operations going on. The windows are opened more or less, according to the weather. The bell is struck, and the pupils are brought to their feet; they perform some brisk physical exercises with the hands and arms, or march to music, or take a lively vocal drill according to Professor Munroe's instructions. In five minutes the scene changes: the windows are closed, half the pupils take their slates with simultaneous movement, place them in position, and proceed to print, draw, or write exactly what has been indicated and illustrated for them as a copy. The rest stand, ranged soldier-like, in a compact line, with book in hand, and take their reading-lesson. No one is listless or inattentive. Sometimes they read in turn, and sometimes they are called promiscuously, or they are permitted to volunteer; or the teacher reads a sentence or two, and the whole class read in concert after her; or they are allowed to read a paragraph silently. Now a hard word is spelled by sounds; then there is thrown in a little drill on inflection or emphasis. Many judicious questions are asked about the meaning of what is read, and all useful illustrations and explanations are given with such vivacity and clearness that they are sure to be comprehended by every pupil and remembered. The time for the lesson quickly glides away, every pupil wishing it would last longer. A stroke upon the bell brings the whole school to position in their seats; the slates are examined and returned to their places; a general exercise on the tablets, or an object-lesson, follows. If the latter, perhaps it is on colours, the teacher having prepared for this purpose little square cards worked with bright-hued worsteds, or the children having brought bits of ribbon or coloured paper or water-colour paints—very likely some one has brought a glass prism to show the colours of the rainbow. A verse or two of poetry on the rainbow is repeated. Now comes the music. A little girl takes the platform, and, with pointer in hand, conducts the exercise on Mason's charts. She asks about the staff and notes and bars and clefs. They sing the scale by letters, numbers, and syllables; and close with a sweet song. They are next exercised in numbers, not in mere rotation of table, but by combination with visible objects,—the ball-frame and marks on the black-board,—writing figures on the slates being interspersed with oral instruction. And thus goes on the whole session. You would gladly remain the whole day, such is the order, harmony, and cheerfulness of the school. You see that the children are both pleased and instructed, that they are wisely cared for in all respects. Neither body, mind, nor heart is neglected. The teacher is happy. She is happy because she is successful, because *her heart is in her work*. She has the *right disposition*, and this qualification multiplies tenfold all others.

This is no fancy sketch, nor is it a flattering picture of some single school; it is only an imperfect outline of what may be seen daily in not a few schools. I say to myself, all honour to the admirable teachers who have made them such!

7. THE ORAL AND THE TEXT-BOOK METHOD.

What is the difference between the oral and so-called text-book method, and what are the merits and defects of each?

In the former, the oral method, the teacher is the general source of information; in the latter, or text-book method, the pupil is sent to the book for information. In neither of these methods is a cramming of the memory with mere words considered to be good teaching, and yet it may happen under a poor teacher, whether the oral or text-book method is used.

The excellence of the oral method should be its freedom from stiffness and pedantry, and its drawing out the pupil to self-activity in a natural man. Its abuse happens when, in the hands of a poor teacher, the subject is presented in a confused manner, or scientific

precision is lost by using too familiar language, or by too much pouring into the pupil without enough exercising the pupil by making him do the reciting and explaining.

The excellence of the text-book method consists in getting the pupil to work instead of working for him; in teaching him how to study for himself, and to overcome difficulties by himself, instead of solving them for him. Unless the teacher knows this, and directs all his efforts to achieve this end, very great abuses creep in. Thus it may happen that the teacher requires the pupil merely to memorize the words of the book, and does not insist upon any clear understanding of it. Indolent teachers lean upon the text book, and neglect to perform their own part in the recitation.

But in the hands of the good teacher the text-book is a powerful instrument to secure industry, precision, accuracy, and self-help on the part of the pupil. In conducting a recitation, the teacher should—

1st. See that its main point is brought out, explained, and illustrated again and again by the different pupils, each using his own language, and the using of the language of the book discouraged, in so far as it tends to verbatim or parrot-like recitations.

2nd. The teacher should himself criticise and call upon his pupils to criticise the defects in the statements made by each pupil, so that they shall acquire a habit of alertness in noticing inaccuracy as well as lack of exhaustiveness in definition, whether in oral statements or in the text-book itself.

3rd. The lesson should, in all cases, be brought home to the pupil's own experience, and his own observation and reflection made to verify the statements of the books.

4th. Every recitation should connect the lesson of to-day to the lessons already recited, and the questions awakened in to-day's lesson should be skilfully managed to arouse interest in the subject of to-morrow's lesson.

5th. The good teacher always notes by the recitation of a pupil what are his habits of study, and the recitation is the place where bad habits are pointed out, and the true method of study shown and illustrated.

I think all will agree with me in pronouncing the recitation conducted in the manner here described effective in securing the ends for which you have established the rules and regulations governing the teachers in the public schools. I have now to point out an additional regulation, which, if adopted by your honourable body, will, I think, lead to the correction of some of the abuses more or less prevalent among the teachers of the schools. I refer to the practice of some of our teachers of using the text-book during the recitation as a source of information from which to draw a supply for their own use on the occasion, thus making up for their own lack of preparation. From this practice results the greater bulk of the evils complained of by intelligent parents, who find their children becoming mere cramming machines, instead of intelligent investigators. That the teacher should know at least as much of the lesson as the pupil, does not need statement. Why, then, should the teacher have recourse to the text while the pupil is debarred from it? In consideration of the evils arising from this source, I respectfully suggest the adoption of a regulation prohibiting to the teacher the use of the text-book in the recitation whenever the pupil is expected to recite without the book; and that the teacher be recommended to use a syllabus of topics or questions, either written or printed, in the conduct of such recitations.—*W. T. Harris in recent Special Report to the School Board of St. Louis.*

MARKING RECITATIONS.—Most of the teachers of our acquaintance adopt some system of recording their estimate of the recitations of their pupils. Many, while they use such a system, are yet fully persuaded that it is open to serious objections. It is so liable to abuse that the question is often raised whether it would not be better to abandon it altogether. As it is sometimes used, it certainly is full of evil. The following, we believe, are valid objections to the system.

1. It tends to divert the attention of the teacher from the true objects of the recitation.

2. It leads to the adoption of that method of conducting the recitation which will enable the teacher to make his estimate the most easily and accurately, rather than that which will be best for the pupil.

3. It takes time which might be more profitably employed in other school work.

4. It is unfavourable to original investigation on the part of the pupil, leading him to prepare his lesson with a view to the recitation, rather than with a view to the extending of his own knowledge.

IV. Education in Various Countries.

1. EXAMINERS IN THE UNIVERSITY OF TORONTO, 1872-3.

The following gentlemen have been appointed Examiners in the different Faculties and Schools for the academic year 1872-73:—

LAW.—J. M. Gibson, M. A., LL.B., W. P. R. Street, LL.B.
MEDICINE.—Physiology and Comparative Anatomy, W. Oldright, B. D., M. D.; Surgery and Anatomy, J. E. Grahame, M.D.; Medicine and Therapeutics, J. W. McLaughlin, M. B.; Midwifery and Medical Jurisprudence, T. J. White, M. D.

MEDICINE AND ARTS.—Chemistry, W. H. Ellis, M. A., M. B.; Natural History, H. A. Nicholson, M. B., etc.

ARTS.—Greek and Latin, Rev. John McCaul, LL.D., Rev. N. McNish, M. A.; Mathematics, J. A. McLellan, M. A., LL.B.; W. Fitzgerald, M. A.; English and History, D. Wilson, LL.D., F. E. Seymour, M. A.; French, E. Pernet, Esq.; German, W. H. Vandersmissen, M. A.; Italian and Spanish, W. G. Falconbridge, M. A.; Mineralogy and Geology, E. J. Chapman, M. A., Ph.D., Metaphysics and Ethics, Rev. G. P. Young, M. A., W. H. Renelson, M. A.; Oriental Languages, J. M. Hirschfelder, Esq.; Meteorology, G. T. Kingston, M. A.; Civil Engineering, A. McDougall, C. E.; Agriculture, G. Buckland, Esq.

2. WORK OF THE LONDON SCHOOL BOARD.

The London School Board with a population of three and a quarter millions of people within its district, has a most arduous task to perform in endeavouring to educate the enormous juvenile population under its control. After discussing all sorts of projects for a whole year, in the course of which some very hard knocks have been given and taken by the respective partisans of religious and non-religious education, and Professor Huxley and other prominent men have retired disheartened at the slow progress of the work, the Board now issues its first annual report. There are still, it appears, 176,000 children between the ages of three and thirteen who attend no school and receive no education, save that which can be picked up in the gutters. Of those who are still without schooling various excuses considered reasonable are made. But there are about 80,000 for whom there is not the shadow of an excuse to be made for their non-attendance, except—and it is an important exception—that sufficient school-room has not been provided by the Board. The report very properly suggests that the Education Department be asked to authorize the immediate provision of schools for 100,000 children.

3. LETTER WRITING IN GERMAN SCHOOLS.

The class being ranged, with slates and pencils in their hands, the master propounds a subject. "Let me see," he will say, "to-day is a market day. You live, we will say, not here, but in the little dorf of Hen's Nest, one hour away. Mother sends you to market with something to sell, and something to buy; you are not to go home to her to-night, and so you want to write a letter, telling her what you have done. Now, then, begin. What shall we write down first? 'I have sold the three hens for:' shouts out a little fat, white-haired boy, who plainly is used to sell his mother's farm produce. 'Stop!' says the master; 'you are too fast. That's not the way to begin, we will come to that after.' Here several rise and ask to be heard. A little girl shouts out, 'My dear mother!' 'No,' says the Herr; 'that is good; it will come later.' Another? 'To-day is Friday.' 'That is right! but there is more to add.' At last it is settled that the name of the place and the day of the month, and perhaps the hour of the day, if need be, shall all be set down first, and at the right hand of the letter, before anything else be done. Having settled now what is first to be done, next comes the question how to do it, and the competition who shall do it best. The end of the room has huge blackboards, sponges and chalk and towels, with little long rows of steps for the little ones to climb up. The letter has first to be written out (in draft) on the chalk-board, corrected and settled finally before it is allowed to be written with ink on paper. Now, then, a little child is called out to write on each board, at the right-hand corner, the name Swallow's Brook, the day, Friday, the date, September 20, 1867. The arrangement of this gives rise to variety of opinion and discussion. Shall 'Swallow's Brook' go down as two words or one? Shall the second part have a capital letter? Shall a stroke part the words? Shall 'Friday' go below or on the line? Shall we write 20 Sept., or 20 September, or September 20? Shall we put 1867 below or on a line? Shall we begin near the top of the board, or lower or more right or left, and on three lines, two lines, or one? At last the best is settled, and the master asks the cleverest girl to write down the pattern agreed, dating at the right-hand corner, with the proper margin all round, and this is now copied over by each on the slate

as the right heading. "My dear mother" is rightly placed at last, the same way, and, preliminaries adjusted, the real business of the day begins in earnest. "My dear mother—I did not get into Swallow's Brook before the hand of the clock, on the lower church, told three-quarters of eight," and so forth. The letter being finished, revision and criticism begin. Each pupil changes slates with her or his neighbour, who has to pick holes and find fault. The corrected slates are all shown to the master, who gives the finishing touch. At last, they all sit down to the desk, take pen and ink, mend their pens, rule their paper, and write out the letter fairly on the pages of their letter-book, which is to form a standard of reference for any letters of the sort they may want to write in their future life.

4. AN EXPERIMENT IN SAXONY.

A novel and most interesting experiment in the field of elementary instruction has just been resolved upon in Saxony. Hitherto, as everywhere else, so in that small but highly-developed kingdom, the youth of the lower orders, upon being apprenticed to a trade, have been left at liberty to forget the little they have learned at school. Attendance at Sunday school and evening instruction provided by the State and charitable societies was perfectly optional. By a law just passed this liberty is abridged, and compulsory attendance at evening schools exacted for a period of three years. This is the first time, if we are not mistaken, in the annals of the world, that an attempt has been made by a State to extend the education of the humblest classes beyond the merest rudiments, and after they have entered upon the business of life. Saxony, already the best taught portion of Germany, will by the new law be more than ever in advance of her sister States.

5. SCHOOLDAYS AND FESTIVALS IN SWITZERLAND.

The festivals and holidays of a Switzer are connected with his life at school. Each change is made the pretext for a feast. On going to school there is a feast; on leaving school there is a feast; at every stage of his advance there is a feast. There is a vacation feast, assembling feast; when a new teacher comes there is a feast, and when a teacher leaves there is a feast. The school is made to him by public and private acts a centre of all happy thoughts and times. It shares the joys of home and the rewards of church. At school a Swiss boy finds his mates, with whom he learns to sing and play, to drill and shoot. The teacher is to him a father. With this teacher he will grow into a man, assisted on his way with care and love, unmixed with either foolish fondness or paternal pride. With him and with his mates, the lad will take his country strolls, collecting rocks and plants, will push his boat across the lake, dive into the secrets of the ancient waterfolk, will pass by train into some neighbouring commune where the arts are other than he sees at home. All bright and pleasant things are grouped about him; and in after time, when farm and counter occupy his cares, these classroom days will seem to him the merriest of his life.—"The Switzers," by W. Hepworth Dixon.

6. LIBERAL PROGRESS IN CHINA.

The Chinese Government has appropriated \$1,000,000 for sending, annually, thirty of the leading alumni of the Government Colleges to the United States to complete their education in American colleges. The first deputation of thirty young men will arrive in San Francisco in July or August in charge of Shan Lai Sun, who has been in this country and is familiar with its manners, language and customs. The young gentlemen will be distributed for the usual four years' course in the leading colleges, and will be followed next year by thirty more, in charge of Yung Wing. This gentleman with Chan Lai Sun, Wang Sing, and Lee Can, now a resident of San Francisco, were classmates in a Government school, and graduated with high honours. Yung Wing then came to America and attended Yale College, where he graduated with great credit. He then returned home, and was sent by his Government to England to purchase machinery for the Government arms foundries; and is now deputed to superintend the education of thirty students in the sciences of the Western world. These important movements of the Chinese Administration are a practical reply to those who sneer at Burlingame's mission, and who affect to belittle the civilizing tendencies of the Chinese rulers. This measure may be taken as the first Government sanction of foreign travel on a large scale. It is, to be sure, under Government sanction, but will have the effect of popularizing travel, and, by so doing, break down that reluctance to go abroad manifest among the better class of Chinese, and which has resulted from an indisposition to contravene Government wishes.—*Alta California*.

7. WOMEN STUDENTS IN ZURICH.

A letter in the *National Gazette*, of Zurich, says that, at present,

out of some 400 students at the University at Zurich, there are eighty ladies, in attendance, most of them students of medicine. A large proportion of these ladies belong to Russia, where the movement in favour of female education has taken very distinct shape, though they have not been able yet to establish a medical college of their own. It would seem, from the remarks of the writer of the letter, that the lady students are hardly much more in favour with their masculine companions at Zurich than they have been at the University of Edinburgh, although there have been none of the discreditable scenes at the former by which the latter has made itself notorious. The professors are also a good deal puzzled, sometimes, how to proceed, and some of them do not hesitate to speak openly in condemnation and discouragement of the lady medical students—remarks which are sure to be applauded by the chivalrous males.

V. Educational and Literary Summary.

The constituted authorities of several schools of repute having expressed their desire that the Universities would undertake the systematic examination of their pupils, both Oxford and Cambridge have appointed Syndicates "to confer with the Committee of Masters of Schools," and their Reports are expected to appear at the end of the present term. It will be remembered that, rather more than a year ago, Dr. Ridding, of Winchester, on behalf of the Committee of Head Masters, addressed a letter to the Vice-Chancellors of the Universities upon certain "points in which the education of the University and Schools come into contact." A Syndicate of the University of Cambridge was in consequence appointed, which, after a conference with the Committee of Masters, recommended, in November last, that the University should undertake, in conjunction with the other English Universities, (1) to examine the highest grade schools in school work, in such a manner as to enable the examiners to report on the general character and efficiency of the teaching in each school; (2) to examine individually boys who are leaving school, and to certify that the successful candidates have reached a standard suitable for boys (a) under 19, or (b) under 16, years of age. This Report having been accepted by the Senate, the Syndicate proceeded, in conjunction with a similar body representing the University of Oxford, to frame precise regulations, which, it is understood, have been submitted to the Committee of Head Masters, and may shortly be expected to be made public. It is perhaps premature to foretell the fate of the Scheme; but it foreshadows undoubtedly a most important reform which is in progress among our leading public schools, and which no one interested in the improvement of the higher education of the country will regard with indifference.

On the occasion of the annual conferring of degrees by the University of London, on the 15th ult., Mr. Lowe, who is a member of the Senate of the University and its representative in Parliament, expressed an opinion in favour of making Greek an optional subject at the Matriculation Examination, to be substituted either by an additional modern language or by some branch of Natural or Physical Science. The proposed change has now been before the body of graduates for the last two years, but has not yet received the sanction of the Convocation. At the last meeting, on the 14th ult., the subject was referred back to the Annual Committee of Convocation for further consideration. In the course of the same speech, Mr. Lowe urged benefactors of education to leave money for the endowment of scholarships at the Universities rather than of professorial chairs, on the ground that the pay of lecturers ought to be in proportion to the amount of instruction they give—i. e., to the number of their pupils. Mr. Lowe appears, however, that quality as well as quantity is required in teaching, and that this quality can only be secured by original work, to devote himself to which the professor must be to a certain extent independent of the emoluments derived from actual teaching.

The *Westminster Review*, in its last number, discusses at considerable length the proposed University of Wales. The suggestions thrown out were all practical—that such a University should be unoriginal sectarian; that its instruction should be high in quality, comprehensive in range, and moderate in price; and that its buildings should be situated in a central and healthy locality. The college is now built at Aberystwith, the central town in Wales, from which railways radiate to every quarter. It is to accommodate about one thousand students and a staff of resident professors. Its status is to be that of University College and King's College, London; and it is modelled on the combined constitutions of the Queen's Colleges and University, Ireland. The curriculum is to be adapted for the different professions, and to embrace special preparation for academic degrees. All other colleges and schools in Wales whose course of study comes up to the recognised standard are to be entitled to affiliate to the University, in the same way as the Queen's

Colleges are affiliated to the University in Ireland; and the institution is to open on equal terms to members of all denominations, there being no special chair of theology, the teaching of which is to be left to the various affiliated colleges. Government, it is expected, will subsidize the University, and place it on a permanent basis.

The Scottish National Association for Combined Secular and Religious Instruction has issued a statement of its views. The basis adopted by the Association is as follows:—1. That no system of national education will be satisfactory which authorises the application of public money, either by Government grants or by local rates, toward the teaching the theological tenets of any religious sect. 2. That, therefore, the State and the School Boards should make provision only for the secular instruction which all children may receive in common; and that, in the interest of religious teaching itself, the care and responsibility of theological instruction should be left to parents and Church organisations, to be provided by separate arrangements.

The Finance Committee of the School Board for London has reported, through its Chairman, M. Freeman, that the amount of money which it would probably be necessary to borrow in order to provide new Board Schools for the children of London would be about one million sterling. Mr. Freeman reminds those who are especially watchful over the interests of the rate-payers, that they need not be alarmed at the amount, for the Committee had made calculations, and the result was that the burden of the establishment and support of these schools would not, after all, be very severe. The debt is to be paid off in instalments in fifty years, and the interest is only 3½ per cent. The *School Board Chronicle*, commenting on the Report remarks:—"Mr. Freeman might have adduced yet further reasons why this large outlay should not be regarded with unqualified seriousness. Undoubtedly an annual sum will have to be drawn from the pockets of the rate-payers sufficient to pay the interest and the instalments; but there are many items to place on the other side of the account. We are not now referring to the oft-repeated argument that money spent in educating the children of the poor will, in the long run, prove to be a good investment, by reason of the diminution of crime and pauperism, and the conversion of comparatively useless into useful members of society. We wish to look at the subject for a moment in relation to the manner in which it will affect the general prosperity of the community, not fifteen or twenty years hence, but now. In the first place, we may assume that, to employ capital to the amount of a million sterling will, in a more or less indirect way, benefit the community. The interest, drawn, no doubt, from the pockets of the ratepayers, will flow back by various channels, giving a certain impulse to trade and manufacture. Again, the million sterling will be spent in building materials, in labour, and in professional services. So much money put to work in this city will induce a great deal of activity, and enliven many industrial agencies which might otherwise move sluggishly. A guinea goes a long way before it dies, and it is not easy to estimate the movement among the busy portions of the community which may be caused by setting a million sovereigns usefully to work."—*English Educational Times*.

VI. Biographical Sketches.

1. THE VERY REVEREND DEAN BETHUNE.

Few men in our community have obtained more universal respect and regard than the late Dean. He was a firm and upright man, kind of heart and sound of head. As the rector of the parish of Montreal, he for many years conducted its affairs with great ability. In Christ's Church Cathedral, of which he was the head, his face had of late years been seldom seen; but it was sadly missed by many members of the congregation who, from their childhood up had been accustomed to see it at each recurring service; and to feel that the Dean was indeed, "that good old man, the clergyman." They felt the absence the more keenly, too, as they knew that it must soon become perpetual, for his long years and failing health gave no room for hope that he could ever become strong again. The last official act which he performed was to preside over the meeting of the Diocesan Synod, held in this city in June, 1869, for the election of a Bishop to the See left vacant by the death of the late Bishop Fulford, and which resulted in the election of Bishop Oxenden. The session was a very stormy one, as many will remember, yet we do not recollect that one of the chairman's rulings was even called into question, and his attitude was at all times dignified and impartial. From that time, the Dean had not appeared much in public. It was his

practice, so long as his health allowed, to officiate on communion Sundays. Latterly, however, his turns of duty had been very infrequent, and on one Sunday last month he paid his last visit to the Cathedral, where he partook of the holy communion. Afterwards he gradually declined, and passed quietly away yesterday morning at the ripe old age of eighty-two years. He was the son of a United Empire Loyalist, who settled in South Carolina in 1791, having emigrated to that place from the Isle of Skye in the year 1761. He espoused the loyal cause in the revolutionary war, and at its conclusion, came to Montreal, and became a minister of the Presbyterian Church. He was appointed to the mission of Glengarry, where his son, who afterwards became the Dean, was born in 1791. Mrs. Bethune being a member of the Anglican Church, brought her son up in its tenets. He was educated in the famous Cornwall Grammar School, of which he subsequently became principal, succeeding the late Bishop Strahan. In the war 1812, he did duty on the frontier as a volunteer. Later he was ordained to deacon's orders by Bishop Mountain, of Quebec, and served for some time as a missionary in the west. In 1818 he was appointed to the rectory of Christ Church, in this city, which he held up to the hour of his death. In 1835 a degree of D.D. was conferred upon him by Columbia College, New York. His last and highest office was that of Dean, which was bestowed upon him soon after the creation of the diocese.—*Montreal Gazette*.

2. MR. CHARLES MACLEAN.

Mr. Maclean was born at Edinburgh, in the year 1806, and was one of a very large family. His father, Donald Maclean, writer to the Signet of Edinburgh, was at one time Solicitor of the Exchequer for Scotland, and occupied a high position in the Scottish Capital. At the age of fifteen Mr. Maclean lost his sight completely. In consequence of this calamity the profession for which he was intended, viz., the army, had to be abandoned, and the whole course of his life was changed. Under his father's influence he was induced to study for the ministry of the Church of Scotland, and with this in view he spent eight sessions at the University of Edinburgh, taking a distinguished part in his classes notwithstanding his blindness. At the end of his college course, having passed the prescribed examination, an objection was raised to his admission to the church by reason of his want of sight, and the matter was debated very warmly in the General Assembly in the year 1829. Many distinguished men took part in the discussion, and it was finally determined to authorize the license on condition that Mr. Maclean would bind himself never to accept a charge. In the year 1834 he emigrated to Canada with no other companion than a hired man-servant. By the recommendation of Governor Sir John Colborne he went to Seymour where he bought land to make himself a home. Having made a "clearance"—some of the largest trees being felled by his own hand—and built a homestead, he returned in 1836 to Edinburgh, where he married Miss Campbell who accompanied him in the following year to his primitive home in the backwoods. His life was marked by many remarkable adventures which if collected would make a most interesting volume. In 1842, and again in 1845, his house with all its contents, was destroyed by fire, and on the latter occasion, all the outbuildings, fences, crops and even live stock were destroyed as well as the homestead. He crossed the Atlantic some fifteen times, and on almost all these occasions he was entirely alone and unattended. Twice he was ship-wrecked—once on the Banks of Newfoundland. In spite of the treatment which he received from the Church of Scotland, he remained throughout life her devoted adherent and took the deepest interest in all her schemes. In politics Mr. Maclean, true to the school in which he had been bred retained to the end of his days the sentiments and feelings of a British Tory. Like all true Scotchmen he cherished an undying love for his native land, her traditions and glories.—*Kingston Chronicle and News*.

3. COL. ALEXANDER FRASER.

Decased was born in the Scottish Highlands in the year 1794, and at fifteen enlisted in the British army as a private soldier. Among other battles he fought at Queenston Heights, Stoney Creek, and for distinguished conduct, especially at the latter, was raised to the rank of adjutant, though yet only nineteen. He settled in this neighbourhood fifty-six years ago, and for a long period was a prominent public man and active magistrate in this county; for some time past, however, old age and infirmness of body and mind caused his retirement into strict private life. He was in all respects a true gentleman of the old school.

4. MR. JOHN FRASER.

Mr. John Fraser, known all over the Dominion as "Cousin Sandy," whose melancholy and sudden death at Ottawa has been

learned with profound regret, was born at Pontsoy, near Banff, Scotland, in 1811. When quite a young man, he left his native town to make his way in London, where his active mind found congenial exercise in the political strife and turmoil of the day. He became a prominent leader in the moderate wing of the Chartist body, but withdrew from active co-operation with the movement when it assumed the revolutionary character which the thoughtful men of the party never contemplated. He emigrated to Canada about fourteen years since, and with his family went to Montreal about nine years ago. He made his first appearance in the press of that city in the *Herald* with a political squib on the late Mr. T. D. McGee. This was followed by others possessing the same fresh original ring, and the author made many warm friends amongst our public men of all shades of political opinion. He was personally a man of genial and kindly disposition, and cultivated intellect.

5. MRS. PETER WEAVER.

The widow of the late Peter Weaver died near Port Burwell, in the 93rd year of her age. She was born in the city of New York, in 1784, and with her parents and other U. E. Loyalists, went to Digby, Nova Scotia, where she grew up, and where she was married to her late husband, in 1808. Not long after they emigrated to Upper Canada, and located on the first concession of Bayham, better known as Nova Scotia street, near Port Burwell, where she lived until the day of her death.

6. MONUMENT TO REV. DR. FORRESTER.

I have been to Truro to-day and was present at the unvailing of a monument erected to the memory of the Rev. Alexander Forrester, D.D. Dr. Forrester was a native of Scotland, having been born in 1805. After passing through the usual course of training, he was licensed to preach and for some years was minister of a parish in connection with the Church of Scotland. In 1843 he came out of the establishment, being the only one in his Presbytery that did so, and helped to form and build up the Free Church. In 1848, he was sent out as a deputation to Nova Scotia, when, liking the country, and being liked in turn, he was induced to accept a call to a congregation in Halifax. Here he laboured until 1855, when he was appointed Superintendent of Education in the Province and Principal of the Normal School at Truro. He threw himself into the Education question with great force and enthusiasm, and accomplished wonders in the cause. In fact he shortened his days by the herculean labours which he undertook and carried out. In 1863 the two offices which he had held for eight years were separated and he remained at the head of the Normal School. In 1869 he died while still in the vigour of his strength to all appearance. He had gone to New York for a few weeks of leisure, and while there he left this scene, the end having come in the house of his beloved friend, Dr. John Thomson, the same who was a delegate to the churches of this Province, a few weeks ago. There were no remarks made by the latter in his address to the Synod in Halifax, that made such an impression, in fact drew tears to many eyes, as the reference to the last scenes of Dr. Forrester's life. Shortly after his death the teachers of the Province conceived the idea of raising a monument to his memory. Many of them had been his own pupils and all of them had been associated with him in the good cause, and had caught some of his enthusiasm. To-day witnessed the inauguration of the work completed. A vast concourse had assembled to see the dedication, teachers being there from all parts of the Province. The oration was pronounced by the Rev. Dr. Robertson, an old and tried friend of the deceased, and speeches were delivered by some others. The whole passed over in a pleasing and satisfactory manner.—*Correspondent British American Presbyterian.*

7. SAMUEL F. B. MORSE, ESQ.

Samuel Finley Breese Morse was born in Charlestown, Mass., April 27, 1791. He was educated at Yale College, where he graduated in 1810. Having from an early age determined to be a painter, he sailed for England, shortly after leaving college, for the purpose of prosecuting his art studies. In London he met C. R. Leslie; the young artists became fast friends, and the first portraits they painted after the intimacy was formed were likenesses of each other. Mr. Morse made rapid progress in his profession, and in 1813 exhibited at the Royal Academy his picture of "The Dying Hercules," remarkable for its colossal size if for nothing else. The plaster model which he made of the same subject, to assist him in his picture, received the prize in sculpture the same year. On his return to America in 1815, he first took up his residence in Boston, but met with so little encouragement and support that he removed to New Hampshire, where he found employment in painting por-

traits at fifteen dollars per head. After spending a year or two in Charleston, South Carolina, where he found more profitable employment, he returned to the north, and took up his residence in New York in 1822. Under commission from the city corporation, he painted a full-length portrait of Gen. Lafayette, then on a visit to the United States. In 1829 he visited Europe for the second time, and remained there for three years. While returning home in the packet-ship *Sully*, in 1832, a fellow-countryman—Professor Jackson—was describing the experiments that had just been made in Paris with the electro-magnet, when a question arose as to the time occupied by the electric fluid in passing through the wire. The reply being made that it was instantaneous, Jackson—recalling the experiments of Franklin—suggested that it might be carried to any distance, and that the electric spark might be made a means of conveying and recording intelligence. This suggestion took deep hold of Morse, who proposed to develop the idea thus originated; and, so quickly did his mind grasp the whole subject, that before the end of the voyage he had drawn out the whole plan of the system of electric telegraphy afterwards known by his name. On his return to New York he resumed his profession, but devoted all his spare time to the perfection of his great invention. Of course he had to face all sorts of difficulties; he received but little encouragement; yet he persevered, and, finally, in 1835 demonstrated the practicability of his invention by completing and putting in operation in the New York University a model of his "Recording Electric Telegraph," the greater part of the apparatus having been made by himself. In 1837 he filed his caveat at the patent office in Washington. The Americans claim that Prof. Morse was thus the inventor of the electric telegraph, but they carry their claim a little too far. Prof. Morse did not discover the principle, but applied it by an invention peculiarly his own. For this the world must give him credit. At the same time, it is only fair to European claimants to the discovery and application of this important agent of intercommunication to state that Mr. Wheatstone, the English inventor of a magnetic telegraph, took out, in conjunction with Mr. W. F. Cooke, a joint patent in England in May, 1837; while Steinheil, in Batavia, invented a system of his own about the same time—both differing from Morse's and from each other. Wheatstone's system is in use in England and other parts of the world; Morse's system is in use throughout America; while Steinheil's system, from its complicated and delicate machinery, has been proved impracticable for extended lines. At a convention held in 1851 by Austria, Prussia, Saxony and Bavaria, for the purpose of adopting a uniform system of telegraphing, that of Morse was, by the advice of Steinheil, selected. In 1840 Morse perfected his patent at Washington, and set about putting his telegraph into practical operation. Four years later the first line on this continent was completed. It extended from Baltimore to Washington. It is less than thirty years since the first line was opened; yet to-day telegraph offices are to be found in every hamlet in North America, the wire in use is many thousand miles in length, the receipts of the companies amount to millions each month, while the benefits which the public reap from the system are beyond value. It is pleasing to know that this great benefactor—unlike many who have laboured for the public good—lived long enough to witness the grand results of his labours, and to receive the well-deserved applause of his fellowmen. Last year his statue was erected in Central Park, New York; on which occasion messages were sent without interruption through a connected line of wires over four thousand miles in length.—*Toronto Mail.*

VII. Miscellaneous.

1. REST.

Rest for the labourer, rest!
When the daylight slowly dies,
When the shadows creep, and welcome sleep
Comes to the weary eyes.

Rest, for the watcher, rest!
When the longed for dawning breaks,
When the gloom of night is put to flight,
As the day's great splendour wakes.

Rest for the mariner, rest!
Beyond the angry tide,
The anchor's cast in the port at last,
His native shore beside.

Rest for the soldier, rest!
When the storms of battle cease,
When the din of war is heard no more,
And the people dwell in peace.

Rest for the traveller, rest!
The day's long journey done,
When, after the tramp, they pitch the camp,
Beneath the setting sun.

Rest for the mourner, rest!
When the first wild grief subsides,
As from the heart dark doubts depart,
And the peace of God abides.

Rest for the wanderer, rest!
No more afar to roam,
When welcomed back from his wayward track,
Into his long lost home.

Rest for the Christian, rest!
When the struggle of life is o'er;
When the race is run, and the crown is won,
Rest! and for evermore.
—*Songs of the Heart, by Blake Atkinson.*

2. QUEEN VICTORIA "AT HOME."

Very few persons, who have not been abroad, have any idea of the machinery of a state reception by the Queen of England at Buckingham Palace. If you take up the *London Times* some morning, and read an account of "the Court which Her Majesty yesterday held at Buckingham Palace," you will at first be inclined to believe that you are reading the *dramatis personæ* of some fairy extravaganza. There is an immense crush of carriages for miles away on either side of the parks and sombre streets, and thousands of the lower classes stand looking admiringly on the glow and glory of fashion in which they can never hope to participate. When the Queen holds Court "Her Majesty's body guard of the honourable corps of gentlemen-at-arms" and the royal body-guard of the yeomen of the guard are on duty in resplendent uniforms. In the court yard of the palace the Life Guards are drawn up in a line, mounted on fleet and sinewy horses. At a little before 3 o'clock in the afternoon the Queen enters the throne-room of the palace, accompanied by members of the family (oftenest the youngest children), and by an innumerable train of persons of rank who wait upon her. Among these are the mistress of the robes, the lady of the bed-chamber in waiting, the maids of honour in waiting, the lord stewards, the lord chamberlain, the master of the horse, the controller of the household, the master of the buckhounds, the keeper of the privy purse, the groom of the robes, the captain of the gentlemen-at-arms, the gold stick in waiting, the silver stick in waiting, the field officer of brigade in waiting and the aides de camp in waiting. This brilliant and somewhat singular throng of servants is made up from dukes, duchesses, viscounts, countesses, colonels and honourables in profusion. The spectacle of the entry is always quite imposing, and the immense hall filled with the *élite* of the land, and radiant with rich dresses and jewellery, becomes a lovely kaleidoscopic vision. The Queen is usually dressed with simplicity. This is a favourite dress of her's on Court occasions:—A black silk dress with a train trimmed with crape and jet, and the usual long white tulle veil surmounted by a coronet of jet. In addition to this she usually wears some jet ornaments, the riband and star of the Order of the Garter, the orders of Victoria and Albert and Louise of Prussia, and many German family orders. The princesses usually wear black and silver, with pearl ornaments; and the attendant throng is dressed with a lavishness unknown to many continental courts.

The presentation of distinguished foreigners by the ambassadors or consuls of their various countries then occurs, and is a long and formal ceremony. All persons who have received or honorably acquitted appointments in the service of the state are also presented, and the archbishops, bishops and other church dignitaries are very numerous. All persons who are on the list of the invited, and who do not appear, are next morning summed up in a list of the official journal as follows: "Of the foregoing, the undernamed were prevented by various causes from obeying Her Majesty's commands." After the presentations the carriages begin to come up, and there is a frightful crush in getting home.

3. MAKE HOME HAPPY.

Make your home sunshiny and happy, if you want to make it attractive. The young heart is boiling over with glee and frolic. God made it so, and it is your duty to accept it and to provide means for innocent recreation. Youth is the period of impression and imitation, and then holy aspirations are most rapidly developed. Provide them with music, books and papers, and pictures and flowers at home; every appliance to awaken all that is pure and noble in mind and heart. Let your children feel that their father's

house is the dearest, happiest spot on earth; and as they pass into life's activities and responsibilities, let them remember the home of their childhood not as the place of bitter words and hard drudging, where they simply ate, and drank, and slept, but as the sunniest spot in all the past, where their sweetest and holiest affections linger, and where all their truest aspirations and their noblest principles were fostered, formed, and fixed.

4. CONVERSATION AT HOME.

Children hunger perpetually for new ideas. They will learn with pleasure from the lips of parents what they deem it drudgery to study in books; and, even if they have the misfortune to be deprived of many educational advantages, they will grow up intelligent if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents who are the life of every company which they enter, dull, silent and uninteresting at home among their children. If they have not mental activity or mental stores sufficient for both, let them first use what they have for their own households. A silent house is a dull place for young people—a place from which they will escape if they can. How much useful information, on the other hand, is often given in pleasant family conversation, and what unconscious, but excellent mental training in lively social argument. Cultivate to the utmost all the graces of home conversation.

5. EFFECT OF GOOD READING.

A correspondent of the *New York Observer* says: "The pleasure of listening to a good reader was never better illustrated than by a little ten-year old girl of our acquaintance, a few Sabbaths ago. The circumstances of the household were such as to render it necessary for her to be sent alone to church. That day the theme of the discourse was the Heavenly City. It was distinctly and beautifully read, and when the child returned home, she said: 'Father, did you ever read the twenty-first chapter of Revelation, in the Bible?' 'Certainly,' was the reply. 'But did you ever read it aloud to us here at home?' 'I think so,' he answered. 'Well, father, I don't think you ever did; for Mr. F., the minister, read it in church to-day, and it was just as if he had taken a pencil and paper, and pictured it right out before us.'"

6. HOW TO BE UNSUCCESSFUL.

- 1st. Consult Tom, Dick and Harry in matters of business, and follow not the best, but the last, advice given.
- 2nd. Instead of marching straight over trouble with the firm front, crouch and let it march over you.
- 3rd. Have no mind of your own, no self reliance. Be unstable and shifting as the sand on the seashore.
- 4th. If you are knocked down to-day, conclude that your place is on your back to-morrow, and the next day, and so on.
- 5th. Because it rains to-day and is dismal, make up your mind that it is going to be rainy and dismal always.
- 6th. Never look among your clouds for silver linings, for rifts through the sky and the sunshine beyond.
- 7th. Follow these directions, closely, and failure will track your steps like a bloodhound; in adversity you will be as worthless as an old rotten sheet for a sail in a gale of wind: when fire comes, as come it must, you will find all the metal you ever had in you turned to dross, and in the fire, you know, dross never purifies or refines—it only burns.

7. THE VERITABLE "UNCLE TOM."

Among those present at the late gathering of coloured people at London to celebrate the Emancipation of the Slaves was the Rev. Father Josiah Henson, one of the eldest men in Canada, who has gone through the horrors of slavery, and is undoubtedly the characteristic subject of the well known tale of "Uncle Tom's Cabin." His head has grown white with the cares of eighty-four years, forty-two of which were spent as a slave, in several of the Southern States. He is at the present time a resident of Dresden, where he has a wife and seven children, and no less than thirty-nine grand-children to cheer his declining years with their love and attention. He still works hard on his farm, and on Sundays endeavours to give to his neighbours and relations a portion of that spiritual grace with which he appears to be abundantly favoured. The old man says that when he heard what freedom was he could not resist the temptation to test it, and determining to die or succeed he left his master, taking with him his wife and carrying his two children in a sack on his back. The journey from Kentucky to Chatham occupied over six weeks, and in that time he met with many hairbreadth escapes. He settled down near Dresden, but he could not rest. He had

tasted the sweets of freedom, and his heart yearned towards those whom he had left in bondage. He crossed the lines a number of times, and by travelling at night, and shunning the light and white folks, he succeeded in liberating one hundred and eighteen of his brethren from the chains that held them. During some of these trips he met with Mrs. Stowe in Ohio, and finding her a friend of his race, told her the incidents of his life, many of which she has graphically woven into that most interesting tale, "Uncle Tom's Cabin." In 1851 he crossed the ocean, and again in 1852. At the exhibition in London he saw and conversed with the Queen, and she has since kindly remembered him by frequently sending him presents as mementoes of their meeting. He is an extraordinary intelligent man, and had eloquently commenced his address when a sudden shower of rain compelled him to stop, and his hearers to disperse. He is very witty, and can amuse his hearers for any length of time, as well as touch their tenderest feelings, by his characteristic descriptions of the terrors of the slave trade.

8. THE DEATH OF A SCHOLAR.

Oh, God, again we feel the power
Of thy mysterious hand;
And Death has taken one this hour
From out our happy band.

A few short weeks ago, her face
Beamed fondly in our glee,
But now, alas, an empty place
Is where she used to be.

We miss her at th' appointed hour,
When she should take her seat;
And mourn the pure though blighted flower
Who's gone her God to meet,

We miss her when her class we call;
Ah, then we miss her most,
And conscious then, both one and all,
What we indeed have lost.

We miss her when the bell chimes out,
The time for sport and play;
Oh, how we miss her joyous shout
Among the light and gay.

We miss her at the daily call
Of each loved pupil's name,
And at all times, however small,
We feel her loss the same.

We miss her in the morning bright,
And grieve her loss at noon,
And at the gathering shades of night
We feel she went too soon.

And when we think of that sweet smile,
That bright expressive eye;
The artless voice that knew not guile,
We ask, why did she die?

At home, at school, alike we miss,
The face to all so dear;
Nor cease to check the flowing of
The silent, falling tear.

On earth she lived a holy life,
We trust she was prepared
To live with God beyond the strife,
All in this world have shared.

J. W. REDICK
Teacher.

Thomasburg, 1872.

9. LONDON—ITS EDUCATIONAL INSTITUTIONS.

London, including its suburbs, has a population of 22,000, and a cleaner, more attractive or thriving city is not to be found anywhere in Western Canada. It has a number of fine churches, prominent among which are St. Paul's Cathedral (Rector, Rev. Canon Innes) and St. Andrew's Church. The lunatic asylum, post office and custom house are fine buildings. The market is probably one of the best supplied in the country. There are a large number of oil refineries, and factories of various kinds, several first-class hotels—amongst which is the Revere House—and scholastic institutions equal, if not superior, to any in the Province. It has also railway communication, by means of the G. W. R. and G. T., in almost every direction, and, from its central position, is destined to attain great importance, both as regards agriculture and manufactures. It suffers, however, by the side of Chatham, from one very important drawback, viz: that while the Thames at Chatham is sufficiently navigable to admit of steamers of several tons burthen reaching and trading with the town, the same river at London has but the dimensions of a small creek, and is utterly valueless for commercial purposes.

THE HELLMUTH LADIES' COLLEGE.—This institution, inaugurated by H. R. H. Prince Arthur, Sept. 23, 1869, is admittedly the finest and most successfully conducted Female Seminary in the Dominion. Its construction, as well as the success which has attended its management, is mainly due to the present Bishop of the Diocese of Huron—Bishop Hellmuth—whose keen foresight, fine business habits, and untiring energy have crowned everything taken in hand with the most complete success. The Ladies' College is picturesquely situated on a gentle elevation, about two miles from the town, has the most healthy and beautiful surroundings, and is, in all respects, a most admirable institution. We were kindly shown over the College by its new Principal—the Rev. Dr. Irwin—who, at Hobart College, Geneva, and at a Seminary in New York City, did much in educating the sons and daughters of our Church.

Mrs. Irwin is the Lady Principal, and, at the time of our visit, there were no fewer than 130 students, a large number of whom are from the States. We passed through the recitation rooms, the dormitories, chapel and library, and were more than pleased with what we saw. The classification of lessons, or time tables, as it is sometimes called, the work of Miss McClelland, was admirable, and we understand that, another year, diplomas will be granted to all graduating pupils, who, on examination, shall prove themselves to be duly qualified. Considerable attention appears to be devoted to vocal and instrumental music, and every student so desiring is allowed a piano for private practice. In addition to Rev. Dr. and Mrs. Irwin, the following is the present staff of teachers: Miss McClelland, Miss Paley, Miss Carroll, Miss Moule, Miss Clinton, Miss Williams, Miss Hall, Miss Barker, Miss Haywood, Madame Veillard (French Teacher), Herr Kroupa (Teacher of German and Painting), and Sergeant Grey (Teacher of Calisthenics). On the grounds belonging to the Institution is "Norwood House," the residence of Bishop Hellmuth.

THE HELLMUTH BOYS' COLLEGE.—Accompanied by the Head Master—the Rev. Francis Checkley, B. A., late Science Scholar, Trinity College, Dublin, we visited the above Institution. We found the College filled with students of various ages, and all industriously employed in preparing for the summer examination. About 50 of the pupils are from the States, some from British Columbia, and others from Equador and various parts of Central and South America. The dormitories and recitation rooms are kept in excellent trim; there are two sanatoria and a convalescent room, and for the recreation of the pupils, a cricket ground, skating rink, gymnasium, Fives' Court, &c. Great stress is now being laid upon the English branches, while due attention is also bestowed upon Classics and the Natural Sciences. The teaching we consider to be thorough and excellent throughout. There is a chapel attached to the Institute, and the utmost care and attention are bestowed on the moral and religious training of the pupils. The medical department, under the charge of Dr. Sippi, M.A., L.S.A., forms a prominent feature of the College. The students in this department attend lectures in Physiology, Osteology, Pharmacy; and Materia Medica, and Dr. Sippi's college and medical standing enables him to give his students certificates recognized by the Universities of Dublin and Edinburgh, and in this Dominion. German and painting is admirably taught by Herr Kroupa, while Professor G. B. Sippi has a large number of pupils, as many as 40, on the piano, violin, flute, and violincello. There are full services in the chapel on Sunday, and short morning and evening services during the week. The following is a complete list of the teachers now attached to the Institute:—Head Master, Rev. Francis Checkley, B.A., late Science Scholar T. C., Dublin; Assistant Masters, Rev. Prof. Halpin, M.A., T. C., Dublin; Rev. W. A. Young; Messrs. Charles A. Sippi, M.A., L.S.A., J. H. Wallis, John Richards, W. Martin, L. Dooner, Bohular Kroupa, J. Poper, J. Room Kay, Professor of Elocution, George B. Sippi, Professor of Music, Sergeant-Major Gray, Drill Instructor.

NEW SCHOOL-HOUSES IN OPS.—The school-house in Section No. 4, Ops, which was destroyed by fire in January last, has been replaced by an elegant brick building which will be open for the reception of pupils on Monday, the 26th inst. The trustees have secured the services of Mr. W. J. Carson, late of the Normal School, who obtained a first-class certificate, Grade A, at the late examination. The Rev. M. Stafford supplied maps and apparatus to the value of sixty dollars, as he does with all the first-class schools in Ops, and they were selected at the Department in Toronto by the Inspector of Public Schools. An additional quarter acre of land has been purchased by the trustees, who have shown themselves determined to do everything in their power to promote the interests of the school under their charge. Another brick school-house, similar in design to the above, is in course of erection in Walker's section, Ops, two and a half miles south of Lindsay, and will be finished in October, Mr. Wm. Duffus is architect and superintendent of both these schools; and the people of Ops will learn with pleasure that the system of ventilating and heating introduced in their township three years ago by Mr. Duffus has been adopted in these buildings. This system has been warmly recommended by the Board of Health for the schools in Boston and Massachusetts and it is claimed to be the best in the world.

VIII. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for May, 1872.

OBSERVERS:—Pembroke: R. G. Scott, Esq., M.A.; Cornwall:—James Smith, Esq., A.M.; Barrie:—H. B. Spotton, Esq., M.A.; Peterborough:—J. B. Dixon, Esq., M.A.; Belleville:—A. Burdon, Esq.; Goderich:—Hugh J. Strang, Esq., B.A.; Stratford:—C. J. Macgregor, Esq., M.A.; Hamilton:—J. M. Buchanan, Esq., M.A.; Simcoe:—Dion C. Sullivan, Esq., LL.B.; Windsor:—J. Johnston, Esq., B.A.

BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.																
STATION.	Eleva- tion. Above the Lake. Above the Sea.	MONTHLY MEANS.		HIGHEST.		LOWEST.		RANGE.		MONTHLY MEANS.		DAILY RANGE.		HIGHEST.		LOWEST.		WARM- EST DAY.		COLDEST DAY.		MONTHLY MEANS.														
		7 A.M. 1 P.M. 9 P.M. MEAN.		Date.		Reading.		Date.		7 A.M. 1 P.M. 9 P.M. MEAN.		Greatest in 24 hours.		Date.		Mean Range.		Mean Maximum.		Mean Minimum.		Mean Range.		Reading.		Date.		Mean Temp.		Date.		A.M. 1 P.M. 9 P.M. MEAN.				
		Inches.																																		
Pembroke...	45-50	77-10	137	42-50	24-5	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501
Cornwall...	45-0	74-58	137	42-50	24-5	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501	7 a.m.	8-30-00	7 a.m.	7-35	42-50	29-210	29-340	29-232	29-501
Barrie...	44-25	79-48	26	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Peterborough...	44-30	78-25	26	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Belleville...	44-10	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Goderich...	43-48-31	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Stratford...	43-28-50	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Hamilton...	43-13-10	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Simcoe...	43-01-30	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501
Windsor...	42-20-30	77-52	72	77-08	60-23	28-40-33	28-73-17	28-60-30	29-236	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501	9 p.m.	4-28-00	9 p.m.	1-16-5	42-50	29-210	29-340	29-232	29-501

Approximation. On Lake Simcoe. On Lake Huron. On Lake Ontario. On the Ottawa River. On the Detroit River. Inland Towns.									
• 29°06, 10 a.m. 6th. † 28°03, 10 a.m. 19th, range 1°03. ‡ 28°38, 11-50 a.m. 19th, range 1°04.									

WINDS. NUMBER OF OBSERVATIONS.										ESTIMATED VELOCITY OF WIND.										AMOUNT OF CLOUDINESS.										RAIN.										SNOW.										AURORA S.																																																																																																																																																																																																																																																							
HUMIDITY OF AIR.		SURFACE CURRENT.										MOTION OF CLOUDS.										MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.		MONTHLY MEAN.	

Where the clouds have contrary motions, the higher current is entered here.

Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

0 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

Where the clouds have contrary motions, the higher current is entered here.

Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

REMARKS.

Pembroke.—Rain, 1st, 2nd, 4th, 8th, 9th, 11th, 22nd, 24th, 27th, 28th.
Cornwall.—On 1st, Canal opened for navigation. 9th, lightning.
11th, lightning and thunder with rain. 17th, humming bird seen.
18th, some ice still visible on the south shore of the St. Lawrence.
plum trees in blossom. 21st, partial visible at 6.30 p.m.; also on 27th.
24th, lightning with rain. Frost on 5th. Wind-storm, 9th. Fog 2nd.
Rain 2nd, 4th, 9th, 12th, 15th, 21st, 23rd, 25th, 27th, 28th, 31st.
Barrie.—On 1st, ice began moving out of the bay—disappeared on

Goderich.—On 1st, some ice still in sight. 3rd, flurry of snow.
11th and 27th, lightning and thunder with rain. Wind-storm, 11th.
Fog, 7th, 30th. Rain, 1st, 2nd, 3rd, 11th, 18th, 19th, 22nd, 23rd, 24th,
26th, 29th.
Stratford.—On 1st, lightning and thunder with rain 9th lightning.
11th, wild plum trees in bloom. 14th, pear and tame plum trees in
bloom. 24th, apple trees in bloom; plum in leaf. 27th, hail. Excess
of mean temperature for the month over average of 11 years + 1.01.

Approximation. dOn Lake Simcoe. eNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. A On Lake Ontario. i On the Ottawa River. j Close to Lake Erie. m On the Detroit River. k Inland Towns.

* 29-008, 10 a.m. 5th. † 28-013, 10 a.m. 19th, range 1.053. ‡ 28-882, 11-50 a.m. 19th, range 1.047.

STATION.	HUMIDITY OF AIR.			WINDS. NUMBER OF OBSERVATIONS.										ESTIMATED VELOCITY OF WIND.				AMOUNT OF CLOUDINESS.				RAIN.				SNOW.				AURORAS.																		
	MONTHLY MEANS.			MOTION OF CLOUDS. &										MONTHLY MEANS.				MONTHLY MEANS.				No. of Rainy Days.				Duration in hours.				Depth in inches.				Total Depth of Rain and Melted Snow.				Class I. Class II. Class III. Class IV. Sky unfavorable, obs. doubtful. Sky unfavorable, obs. impossible. Sky favorable, none seen.										When Observed.
	7 A.M.	1 P.M.	9 P.M.	North.	North-East.	South-East.	South.	South-West.	West.	North-West.	Impercept.	Clear.	Total.	7 A.M.	1 P.M.	9 P.M.	MAX.	No. of Rainy Days.	Duration in hours.	Depth in inches.	No. of Snowy Days.	Duration in hours.	Depth in inches.	Total Depth of Rain and Melted Snow.	Class I.	Class II.	Class III.	Class IV.	Sky unfavorable, obs. doubtful.	Sky unfavorable.	Sky favorable, none seen.																	
Pembroke	96	94	96	1 1/1	6 30	1 8	34	81	1 1	1 1	1 1	10 15	1 8	1 9	7 2	7 7	6 5	7 13 10	...	4 2308	...	...	...	4 2308	1 1	...	...	...	...	14	11	1st, 4th, 13th-16th, 21st, 22nd, 21st.									
Corwall	78	83	74	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Barric	75	83	74	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Peterborough	96	98	99	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Saltville	94	73	82	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Leicester	78	87	75	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Stratford	78	83	77	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
London	74	82	74	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Amulston	85	74	87	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Lincoln	85	74	87	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								
Windsor	74	87	75	7 5	7 8	5 1	15	81	1 1	1 1	1 1	18 1	1 5	0 7	1 1	7 0	6 2	7 15	89 5	2 3004	...	...	...	2 3004	...	...	...	...	...	16	7	4th, 13th-16th, 21st, 22nd, 21st.								

Frost, 2nd, 3rd, 4th, 5th, 29th. Wind-storms, 3rd, 9th, 11th, 27th. Snow, 2nd, 3rd. Rain, 1st, 2nd, 3rd, 9th, 18th, 19th, 20th, 22nd, 24th, 26th, 27th, 30th.

HAMILTON.—17th and 18th, the leaves of many trees: maples, horse-chestnuts, apples, plums, cherries, &c., and of many shrubs have come out during this week. 19th, may flies very numerous. 9th and 10th, lightning. 3rd and 27th, lightning and thunder with hail or rain. 15th, Corona 30" in diameter around the moon. Frost, 5th. Wind-storms, 9th, 11th, 27th. Rain, 1st, 2nd, 3rd, 9th, 11th, 18th, 19th, 20th, 22nd, 24th, 26th, 27th, 30th. The observer gives a detailed list of the dates of blossoming of the various plants and flowers during the month.

SIMCOE.—On 3rd, lightning with rain. 9th, lightning with thunder; an auroral arc spanning the heavens from N. W. to S. E. about 3° broad, and in the Zenith, was observed, commencing about 10 p.m. 27th, lightning and thunder with rain. Frost, 6th, 7th, 28th, 29th. Wind-storms, 2nd, 3rd, 4th, 9th, 11th. Rain, 1st—4th, 11th, 18th, 19th, 20th, 22nd, 23rd, 24th, 26th, 27th, 30th. Extremely hot weather during month. The greatest heat and the greatest cold on same day, 6th.

Windsor.—On 2nd, hail. 8th, meteor in S. towards S.W. 9th, lightning. lunar halo, 11th, 14th, 16th. lightning and thunder with rain, 21st, 26th, 29th. Frost, 4th, 5th, 13th, 14th. Wind-storms, 3rd, 9th, 11th, 19th, 26th. Rain, 1st, 3rd, 11th, 15th, 18th, 19th, 20th, 22nd, 24th, 26th, 27th, 29th, 30th.

IX. Departmental Notices.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and consent to employ *two* masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

POWER OF THE "RETIRING TRUSTEE."

In reply to many inquiries on this subject, we answer: That by the New School Act the lost power of the "retiring trustee" has been restored. Up to 1850, he had the same power as any other trustee, but in that year it was enacted that he could not lawfully sign an agreement with a teacher, the duration of which would extend beyond his period of service. That clause has now been repealed and the "retiring trustee" has now precisely the same powers in all respects as either of his colleagues.

NEW SCHOOL REGISTERS.

In reply to numerous applications for Public School Registers, &c., we desire to say that the new edition (including the modifications in the courses of study required by the new School Act) has been sent out to the County Clerks for distribution through the Inspectors. No copies will be sent out direct to individual schools from the Education Department. Trustees will, therefore apply to the Inspector for them.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws.

SCHOOL PREMISES AND ACCOMMODATION.

We would request the attention of Inspectors to Note to a of Regulation No. 4 of their "Duties," in which they are directed to call the attention of Trustees to the condition of the School premises. In many School sections the School-house has been allowed to remain in the same state for fifteen or twenty years and longer, often on a bare open space, or on the road-side unenclosed, without a tree or shrub near by to shade it, or any provision being made by the Trustees for the convenience or health of the pupils, or even for their observance of the decencies of life. The Legislature has wisely decided that this state of things shall not continue, but that, as soon as possible, a remedy shall be applied, where necessary. A reasonable time should of course be allowed to Trustees in all cases to set things right; but in the meantime Inspectors will, we trust, not fail to urge upon Trustees the necessity of complying, as soon as possible, with the provisions of the law on this subject.

"OLD COUNTY BOARD" CERTIFICATES.

The question is often asked: "Can the present Board of Examiners recall the old County Board Certificates?" We reply: They cannot recall any of the old County Board Certificates which were given for life, or for a term of years. They can, however, at the proper time, recall those which were given for an indefinite time, or during the pleasure of the Board; that is those which on the face of them clearly show that they were given subject to such recall. The Department has in all cases requested the Board of Examiners *not* to recall these latter certificates *this year*, nor until the supply of teachers is more equal to the demands of the schools than at present.

SCHOOL HOUSE ARCHITECTURE.

In the *Journal of Education* for February, 1870, Trustees will find a variety of illustrations on School House Architecture, with letter-press descriptions. Extra copies of this journal will be sent free by post, on receipt of 12 cents. There has also been published a useful pamphlet on "The School House, its Architecture," etc., with numerous illustrations, which can also be sent free by post on receipt of 65 cents.

AUTHORIZED TEXT BOOKS.

The lists of the authorized Text Books for High and Public Schools, so far as completed by the Council of Public Instruction, is published in the *Journal of Education* for October, and on a separate sheet. Inspectors, Trustees and Teachers will please see that these books are used in the schools.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme.....	Large Sheets.	The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table..		
4. Duties of Pupils.....		
5. The Ten Commandments		
6. Library Regulations	Small Sheets.	
7. List of authorized Text Books.....		
8. Merit Cards and their uses.....		
9. Hints on constructing Time Tables.....		
10. Departmental Notices.....		

IN THE PRESS.

THE ONTARIO SCHOOL LAW,

Relating to County Councils—Township Councils—City, Town and Village Councils—Township Boards—Union School Sections—Arbitrations in regard to School Sites—County, City and Town Public School Inspections, Boards of Examiners, &c., &c., being Part II. of School Law Lectures. By J. GEORGE HODGINS, LL.D., Barrister-at-Law. Price 75 cts.; by Mail, 80 cts.

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Oct. 28

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ONTARIO TEACHERS' ASSOCIATION.

The annual convention of public school teachers of the Province of Ontario was held on the 7th, 8th and 9th of August, in the theatre of the Normal School. The proceedings were opened by the reading of the 23rd Psalm and the offering up of a prayer. The Secretary read a letter from Principal Dawson, of McGill College, stating his inability to read a paper at the present meeting in consequence of his having made arrangements to take a geological tour through the Maritime Provinces. It was expected that the President of the Association, the Rev. Pres. Snodgrass, of Queen's College, Kingston, would be present and deliver an address, but the following letter from him was read by the Secretary: "I very highly appreciate and now gratefully acknowledge the honour of being elected President of your important and useful association. When the election took place I was under an engagement to visit Britain this summer. To that engagement I am obliged to adhere, and tomorrow (D.V.,) I shall leave Kingston for Quebec *en route*, so that it is impossible for me to attend your next annual meeting. I ask your acceptance of this explanation of my absence, and beg to assure you that I very much regret my inability to be with you. Were I present it would be with an earnest endeavour both to profit by your deliberations and proceedings, and to discharge to your satisfaction the duties of the office to which you have appointed me. Since learning that I might address you in writing without being present, I have been unable from the pressure of other business to find time to do so in a manner satisfactory to myself. I therefore crave your indulgence, but I do so with the expectation of attending one of your annual assemblies before very long, and of having an opportunity of stating my views on some subjects connected with the school system of Ontario. Earnestly hoping that you shall have a happy and successful meeting.—I have, &c."

Mr. Edward Scarlett, School Inspector for the County of Northumberland, the 1st vice President of the Association, in the absence of the President, took the chair.

INCORPORATION.—The Secretary then stated he had waited upon members of the last and present Government, and the result was

that he had been advised by these members not to press their request for incorporation this year at least. Mr. McGann (of the Deaf and Dumb Institution, Belleville) moved the following resolution, which was seconded by Mr. J. Campbell: "That Messrs. McMurphy, McCallum and Anderson be and are hereby re-appointed to attend to matters connected with the incorporation of the Association."—Carried.

REV. DR. RYERSON'S ADDRESS.—At the evening session the Chairman introduced the Rev. Dr. Ryerson as the lecturer of the evening. Dr. R. proceeded to give expression to his views on the subject of education in general. He regretted the absence of Principal Snodgrass, the President of the Association, as he would have done so much to interest and instruct them. He (Dr. R.) had been surprised at the request of the Committee of the Association, as it had been stated, so confidently and largely, that he had yet to learn the elements of his native tongue. Such had been the representations on the subject, that he (Dr. R.) had begun to suspect his own identity, and to ask himself whether it was not a delusion that he had in boyhood not only studied, but, as he supposed, had mastered Murray's two octavo volumes of English Grammar and Kames Elements of Criticism and Blair's Rhetoric, of which he still had the notes that he made in early life; and had been called to assist teaching a special class of young persons in English Grammar when he was only fifteen years of age; and whether it was not a fancy that he had taught, as he supposed, with some degree of acceptance and success, what was then known as the London District Grammar School for two years, and had subsequently placed himself for a year under an accomplished scholar in order to read Latin and Greek. Somewhat disturbed by these doubts, he thought he would satisfy himself by writing to the only two gentlemen with whom he was now acquainted, who knew him in these early relations. In reference to the statements alluded to, and for the information and satisfaction of his friends of the Teachers' Association, he would read the short correspondence to which he now referred. Dr. Ryerson then read the following letters:—

TORONTO March 9th, 1872.

MY DEAR SIR,—I believe you were part of the time a pupil in what was then known as the London District Grammar School during the years 1821 and 1822, when I was acting Master of it.

Will you have the kindness to let me know what is your own recollection as to the attendance at the School, especially in the winter months, and the impression of the neighborhood generally as to its efficiency during the two years that I taught it,

I am, my dear Sir,

Yours very faithfully

(Signed) E. RYERSON.

Simpson McCall, Esquire, M.P.
Vittoria, Co. Norfolk, Ont.

VITTOBA, 12th March, 1872.

DEAR SIR,—I have your letter of the 9th inst. making inquiries as to my recollection of the London District School when kept in Vittoria in the years 1821 and 1822 under your charge. In reply I can assure you that I have a vivid recollection of the London District School during the winters of 1821 and 1822, being an attendant myself. I also remember several of the scholars with whom I associated, viz.: H. V. A. Rapelje, Esq., late Sheriff of the County of Norfolk, Capt. Joseph Bostwick, of Port Stanley, James and Hannah Moore.

The number generally attending during the winters of those two years, if I remember correctly, were from forty to fifty.

The School while under your charge was well and efficiently conducted, and was so considered and appreciated throughout the neighbourhood at the time; and after you left the charge of the London District School it was generally regretted in the neighbourhood.

I remember hearing this frequently remarked not only by pupils who attended the School under your tuition but also by their parents.

Dear Sir, I am,
Yours truly,
(Signed) S. McCALL.

To Dr. E. Ryerson,
Education Office, Toronto.

TORONTO, March 9th, 1872.

MY DEAR SIR,—I went to Hamilton, during parts of the years 1823 and 1824, to read Latin and Greek with the late Mr. John Law, that accomplished classical scholar, then Head Master of the Hamilton Grammar School. You were at that time one of the pupils in the school. I will thank you to have the goodness to inform me, as far as you know and can recollect, what was Mr. Law's opinion, and what was your own impression and that of the school generally, as to my application and progress in my studies.

Believe me, my dear Sir,
Yours very faithfully,
(Signed) E. RYERSON.

The Honorable
Samuel Mills, Senator, Hamilton.

WEST LAWN, 11th March, 1872.

MY DEAR DR. RYERSON,—I have your favour of the 9th inst., and beg to say, in reply to your questions, that I have a distinct recollection of having had the honour of being at the Hamilton Grammar School with yourself in the years 1823 and 1824, and that the late John Law was head master at the time. He was considered a highly educated and accomplished scholar, and was so well qualified for the position he held, that the school had a provincial reputation and was patronized by many parties living at a great distance by sending their sons to it; and the very fact of your attending the school gave éclat to it, as you were then considered a well educated young man, far in advance of the rest of us. Your studies, if my recollection serves me right, were confined entirely to reading Latin and Greek, and I know Mr. Law and the whole school looked upon you as being a credit to it.

Believe me, my dear Dr. Ryerson,
Always yours faithfully,
(Signed) SAML. MILLS.

To Rev. Dr. Ryerson, &c., &c.,
Toronto.

Dr. Ryerson then proceeded: He wanted to know what was our country's need. It needed education! He meant by the term education, that sort of knowledge that would place Canada at the head of American civilization. In order to develop all the resources of the earth and the works of God, it was necessary that the people should be educated. The very foundation of the development of the resources of the natural kingdom was the cultivation of a knowledge of our language. He dwelt strongly upon the importance of cultivating a thorough acquaintance with the rules and practice of reading, writing, and arithmetic, and also the rudiments of natural science, which latter knowledge was of the highest importance, to those engaged in agricultural pursuits. This he conceived to be the country's need in the highest degree, and there should also be a due regard paid to the moral education of the young people of this country. The country needed an education of a moral character to conduce to its prosperity. It was necessary that there should be teachers of these subjects, persons who were masters of them. It was on this ground that teachers should be

specially educated to form the character of the country, and develop the minds of the youth thereof. He spoke of the high importance of the office of teacher, as the latter was entrusted with a high and important duty, and it was highly essential that they should show, by the example they set to their pupils the great advantage of establishing good moral principles among those under their tutelage. He was strongly in favour of female teachers for young pupils, for no man possessed the kind heart, the patience, and loving sympathy of a woman. He spoke of the advantages and the impression left upon the minds of the pupils, of having comfortable school-house accommodation; he looked upon that as being one of the first principles to be carried out. In that particular respect the European Governments were in the advance of that of the Dominion; there should be a free school in every part of the land, as was the case at present in Prussia, and even in France, under the despotic rule of Napoleon. The Dr. then proceeded to allude to the question of superannuation, and he suggested that provision should be made for worn out teachers out of their incomes when in active employment; his principle was that the Government should give a dollar for every dollar paid by each teacher. He referred to this subject simply in an explanatory spirit, in regard to a clause in the School Bill referring to the Superannuation Fund. He concluded a speech of about an hour's duration with some practical remarks upon the latter subject, and the system of education generally. His remarks were most attentively listened to, and were occasionally applauded.

Mr. Harris (of Kent) proposed a vote of thanks to the lecturer, and, in a few laudatory remarks, Mr. McCallum (Hamilton) seconded the motion, which was carried.

TECHNICAL EDUCATION.—Mr. J. Howard Hunter, M.A., (Principal of the Collegiate Institute, St. Catharines), then proceeded to read a paper on "Technical Education." In the course of his remarks, the speaker spoke strongly in favour of instilling Technical education into the minds of the rising generation. It was of the highest importance to both the artizan and agricultural classes. He welcomed the establishment of the College of Technology, and also of the Agricultural School. He instanced the success which had attended what he termed the "Industrial Universities" of Europe, and he strongly urged the necessity of establishing such colleges or technical educational institutions as would afford young farmers and operatives the opportunity of acquiring a thorough knowledge of the calling or trade in which they were engaged. He advocated the idea of founding travelling scholarships, which would enable the students at such institutions to visit the continent of Europe and other places where they would have an opportunity of gathering the requisite knowledge of the trade in which they were engaged, to make them an honour to Canada, and thoroughly competent workmen. Mr. Hunter's paper, which occupied nearly an hour in the reading, was of a most exhaustive and comprehensive character, and was most attentively listened to throughout.

Mr. J. B. Somerset moved, and Mr. J. R. Miller seconded a vote of thanks, which was accorded to the reader of the paper.

The discussion of Mr. Hunter's paper upon Technical Education was afterwards opened.

Mr. Hunter, in introducing the discussion, said that the purport of his paper was "Technical Education" from the primary school upwards. The great question was how to economise time on this occasion, and in order to give the discussion a more definite direction, he might state that the principle to be discussed was, how far it was practicable and desirable to carry out the teaching of scientific knowledge in our primary schools; also how far in regard to our higher schools, or, as they might be called, industrial universities.—Mr. McGann, by way of opening the discussion, said he had not heard the paper read; but was sure, from the known ability of the author, it was worthy of attention.—Mr. McCallum, M.A., said he believed the subject was one which ought to receive more attention. He thought the object in view ought to be the development of the powers of observation and reflection in children, which he would bring about through experiments and demonstrations. He believed in teaching them to be able to read, write and speak their own language, and would throw in Natural History as a sort of pastime, which would serve to interest the minds of the children in their more severe and drier work.—Mr. J. B. Somerset moved a resolution to the effect that it is desirable that the teaching of Natural Science should be introduced into our public schools. He felt there was a great want in public schools in this respect, and could not be neglected without serious detriment to the interest of the schools and the country. He advocated the introduction of models to illustrate and apply the subjects in Natural History which might be taught. Indeed, he would approve of a more practical system of teaching altogether, and thought there should be less cramming: for certainly the one mode was more in favour of developing the intellectual powers of

the pupils than the other.—Dr. Cumford seconded the resolution.—Mr. J. B. McGann thought it possible to make even English Grammar an interesting study to the pupils, and gave an illustration of his own system, by which he pressed upon their minds the difference between the transitive and intransitive forms of the same verb by the use of the preposition, and suiting the several demonstrations given to the explanations offered.—Mr. Cameron, Cobourg, thought that in endeavouring to carry out the teaching of Natural Science in the spirit pointed out in the motion, grammar and the study of our language generally would be lost sight of. He thought a little more time should be devoted to the cultivation of grammar and such subjects. He thought it impossible that this science could be carefully taught, and at the same time give due attention to more important subjects.—Mr. Hunter said he understood the speakers to mean, that it was impossible to introduce the teachings of Natural Science in any form by object lessons, and at the same time give justice to the teaching of the "three R's."—Mr. McCallum, of Hamilton, said of course it was necessary that teachers should take care that neither this or any other subject should occupy too much time, and illustrated what he meant by this by referring to a schoolmaster who had been found fault with for not giving due attention to penmanship. To amend this, he kept his pupils writing a whole week. He urged upon them the necessity of making learning a work of the mind and not a mere repetition of words. Let teaching be of a character which will fit the children for the position they may occupy in life.—Mr. Miller, Goderich, approved of the object lessons and of the introduction of Natural Science. He also said he would approve of allowing the pupils the privilege of asking questions on any subject upon which they found themselves in any difficulties. He did not think it right that children should be mere machines for working questions, reading out of a book, or spelling words.—Mr. Fotheringham thought teachers should bring, and make their scholars find for them, specimens illustrating their natural science lessons. He, too, was in favour of the system of teaching technically, and said there might be more advantage obtained from object lessons in two hours than in the pursuance of the purely elementary system.—Mr. Glashan said it must of necessity turn out that teachers will adopt the teaching of Natural Science, for the course of the whole world had been progressive in that direction, as well as in others, and teachers too must advance. Remarking upon the difficulties attending the introduction of Natural Science into schools, he said not the least was the inability of teachers to impart a knowledge of it; and even inspectors would be none the worse for a touch up in this direction. With regard to models, he thought every man should make his own models. Tyndall himself was never satisfied with an experiment made by another man; and the very fingering of the materials required to make a model set a man's brains in active operation. By all means let there be method in their teaching, he said, and do not crowd in too many subjects.—An animated and lengthy discussion ensued, in which the greater number of those present took part, and were apparently nearly all in favour of the resolution which was finally carried.

GOLD MEDAL.—The following letters were read from Dr. Hodgins, enclosing one from Mr. McCabe, Toronto, in which that gentleman intimated that he would offer a gold medal to the student standing highest in the division, obtaining first-class certificates before the Board of Examiners of the Department of Education, for 1873. The announcement was received with applause, and a motion that it be received and taken up in the convention was unanimously carried. The letters were as follow:—

EDUCATION OFFICE,
TORONTO, 6th August, 1872.

SIR,—I have great pleasure, as requested by the Chief Superintendent of Education, to enclose herewith the copy of your letter addressed to this Department by William McCabe, Esq., LL.B., in which he makes a most liberal offer of a Gold Medal, to be awarded to the candidate for a first-class Provincial Certificate, who obtains the highest rank among those who may compete for that certificate in Ontario, in 1873.

Mr. McCabe has himself been a most successful and enterprising teacher, and though he has at present retired from the profession, he has by this most praiseworthy act shown how strong his sympathy is with it still, and how deeply anxious he is for the maintenance of the high rank in that profession to which he himself attained with such credit.

Would you kindly communicate to the Teachers' Association, over which you preside, the purport of this note.

I have, &c.,

The Very Reverend (Signed,) J. GEORGE HODGINS,
Principal Snodgrass, D.D., Deputy Superintendent.
President of the Teachers' Association of Ontario,

(Enclosure.)

TORONTO, August 3rd, 1872.

J. GEO. HODGINS, Esq., LL.D.,
Deputy Superintendent of Education,
&c., &c.

DEAR SIR,—I beg to offer a Gold Medal, open to all competitors, to be awarded at the examination of 1873, through the Department of Education, by the Central Board of Examiners, to that one of the candidates, for first-class certificates of qualification as teacher, who shall stand first in the highest A class, and who shall, other things being equal, give satisfactory evidence of the greatest success and aptitude in teaching.

As a former member of the profession, I think it desirable that distinctions of this character, long obtainable by those entering upon the other professions, be attached to one which ranks among the first, both in importance, honor and usefulness.

I would be very much pleased if the Chief Superintendent would be good enough to undertake to make the presentation to the successful candidate, either at the annual meeting of the Teachers' Association heretofore held in August, or at such other time, or in such way as he may desire best.

I shall be glad to confer with you as to the design and other details respecting which your extended experience will be of the greatest service, and I shall place the medal in your hands so soon as it can be suitably manufactured.

Will you kindly call attention to the matter in such terms as you think best, in the next issue of the *Journal of Education*, that competitors may have ample notice.

Yours respectfully,
(Signed,) WILLIAM MCCABE.

SUPERANNUATION.—The report of the committee on the subject of superannuation was the first business, and the subject of technical education, having already occupied so much time, was dropped.

The Board of Directors reported that copies of the petition against the clause referring to superannuation, inserted in the Education Act in 1871, had been forwarded to the public school inspectors of the various counties in the Province, and that a few copies, whose presentation to the Legislature of Ontario was not otherwise provided for, were duly laid before the Provincial Parliament by A. Farewell, Esq., M.P.P. This report was adopted.

Mr. Johnson argued that the right of teachers to a share in the superannuation fund as a "right" and not as a matter of appeal. He considered it as anomaly that the teachers of Ontario should be taxed by the government in the superannuation fund when the government did not pay the profession. He controverted the idea that there was any analogy between the case of the Wesleyan body and the teachers as some stated. He criticised the clause in the School Act relating to the Superannuated Fund, and moved a reference to it as above. "That in the decided opinion of this Association, the clause of the School Act of 1871 which relates to the Superannuation Fund, should, in compliance with the wishes of the great majority of the Public School teachers, expressed through the medium of their various local associations, be repealed. Mr. Henry Dickenson seconded the resolution. After an animated discussion, Mr. McAllum moved the following amendment to the resolution: "That the convention approve of the Superannuation clause in the School Act, on the following conditions: That all gentlemen connected with teaching should be included in the provisions of the law, and that some share in the management of this fund should be assigned to the teachers themselves, and that the principle be admitted, that after serving a certain number of years, teachers shall have a legal claim to participate in this fund whether he retires from teaching or not." He said that all inspectors and teachers should be entitled to all the benefits of the fund. There should be, however, no taxation without representation. The convention, however, must be unanimous. In Wentworth the teachers association were against the whole thing by 10 to 1. Having in view the fact that the Government had given \$12,000 this year, shewed a tendency on their part to take the whole matter into their hands. Mr. Hunter read the 43rd clause of the act, and remarked that it was not intended to apply to high schools, yet the amendment providing for "all gentlemen connected with teaching" would not apply to them but to private teachers. He derided the pittance which this fund would give the recipient—in fact, about \$116 per annum. In twenty years, if money increased in value as at present, it would not support a Newfoundland dog. The arrangement would not be worth a cent if thrown on to the money market, they would realize nothing save much profanity. The arrangements were worthless, and it was monstrous to force on to unwilling men such a system of insurance. The Secretary said that the \$4 paid to the fund brought a better dividend than any

insurance company, if it brought an income of \$116. Mr. Miller proposed that Dr. Hodgins should be sent for, to give some information on the subject of the Superannuation Fund. This was agreed to. Mr. Hunter said it required much argument to make teachers take a part in this beneficial measure. Mr. McMurchy said that \$4 would bring a handsome dividend, but he forgot the word "if"—if the fund would permit it—which made all the difference. He condemned the conduct of a county inspector, Mr. Ball, of Welland, who had actually threatened the teachers in his district if they did not support the superannuation clause, and also had informed some candidates for certificates that it was his will that they should support the clause. He wanted Dr. Hodgins to state what official instructions Mr. Ball was acting under, if any. Injustice was done also in the matter of the petitions. Mr. McGann criticised the provision of the clause as an insult to the teachers. Dr. Hodgins, having been requested to address the Association on the subject, said he sympathised with them in the smallness of the grant, but when they had asked the House for an increased grant, they had been met by the question, "What are the teachers themselves doing?" They had in truth taken little or no interest in it, and until they did so, they could not ask for increased grants. Again, some did not oppose the principle, but it was at first not entertained by the Legislature; and it was only during the past few years they had been able to establish it. He felt that they could not embody the exact principle desired by the teachers. They had been unable to get the amount increased until last year, and it must be remembered that thousands of dollars could not be asked from the Legislature unless it could be shown that teachers were doing their part in the matter. It was important, however, to have obtained a recognition of the principle that the profession was entitled to a retiring allowance. Although all was not done in the matter that was desired, yet the best was done that could be. Dr. Hodgins proceeded to read from a letter written by Dr. Ryerson to the Treasurer on the subject. This letter showed great diversity of opinion among the teachers on the subject. It appeared that it was the fluctuation in the allowance which caused discontent. The rev. doctor made some recommendation with regard to the subject. This letter was laid before the House of Assembly, with other correspondence, and ordered to be printed. It was dated the 27th of February, and was as follows:—

Copy.)

EDUCATION OFFICE,
Toronto, 27th Feb., 1872.

SIR,—I have the honour to state, in reference to the recent conversation which I had with you in regard to the Superannuation Clause of the School Act, that I addressed a circular (hereto appended) on the subject to the various County Inspectors. In reply to that circular, the Inspectors of the Counties of Essex (No. 1), Lambton (No. 1), Oxford, Perth, Brant, Norfolk, Haldimand, Halton, North Simcoe, North York, Prince Edward, Frontenac, Lennox, Addington, Leeds, Carleton, Stormont and Prescott, and Russell, report that, so far as they know, no petitions for or against the Superannuation Clause has received any signatures in those counties.

The Inspectors of the other counties report as follows:—Kent, one petition for and one against the clause; Huron, one against and one for the fund; Bruce, nine out of every ten are in favour of the clause; Wellington (1st and 2nd divisions), one for and one against; Waterloo, no certain information; Lincoln, three against, none for; Welland, eight for and none against; Peel, three against, none for; Ontario, seventy out of seventy-six teachers signed petitions in favour of the clause; Northumberland, one for and one against it; eighty teachers, or nearly all, signed petitions in favour of the clause.

As to the state of feeling on the subject among the teachers, nearly all the Inspectors report a great diversity of opinion on the subject; others report mere passiveness, and the remainder, such as Waterloo, Oxford, Middlesex and Peel, strong objection to the clause. In the case of Lambton, Ontario, Perth and South Hastings, an almost unanimous expression of opinion has been given in favour of the clause as it now stands.

In regard to the *classes* of teachers opposed to or in favour of the clause, the Inspectors almost invariably report the former to be "those who do not intend to continue long in the profession of school teaching." "Young men who intend to teach only until they can secure money sufficient to carry them through college, or into something else"—persons "who intend to make teaching a stepping-stone to something else"—"those who look more at the money than at the principle involved"—"those who have received incorrect or partial information on the subject"—those "who are opposed to compulsion in every form," and those "who oppose the whole scheme on various grounds." The great mass of the teachers, however, are either passive in the matter, or, having been for some time in the

profession, are strongly in favour of it, and hope some day to derive advantage from it.

As to the grounds of objection to the distribution of the fund (as now authorized by law), which have been urged by very many earnest and faithful teachers, I entirely sympathize. I would gladly see the law modified so as to meet their reasonable wishes. These teachers object to the present scheme chiefly on the following grounds:—

1st. That teachers must be "worn out" before they can receive any aid from the fund. As one Inspector remarks: "Many of the best and most devoted teachers look forward to a time when the work and worry of the school-room will be over, and they hope that their withdrawal from the profession may take place, at all events, a few years before they are incapacitated by infirmity, and unable to teach a school any longer. Like the merchant, the mariner, and others, they hope for retirement while health, and the capacity for enjoying retirement, remain. Many of them would rather die in harness than confess themselves incapable of doing a day's work. This feeling is not unknown to many of the best men in other professions, when they begin to grow old."

2nd. The second reasonable ground of objection is the uncertainty of the *amount* of the pension payable for each year's service. For some years the state of the fund has been such that I have only been able to apportion from one to two dollars for each year's service, but last year the amount was only two dollars a year; but this year (out of the \$12,500 which I took the liberty to recommend being placed in the estimates for this service) I shall be able to apportion at the rate of about four dollars for each year's service. If the teachers who become superannuated could only rely upon the maximum fixed by Law many years ago (*viz.*, six dollars for each year's service), I think they would be satisfied. It is the continual fluctuation in the amount payable to them which has reasonably caused much discontent.

In regard to the first ground of complaint which has been urged, I would recommend a fixed age to be determined, at which any teacher who has subscribed to the fund should have the right to retire and receive a pension. A sliding scale of allowance might also be fixed, definite in amount, and not liable, under any circumstances, to fluctuation. The basis to be adopted might be that fixed in the Superannuation Act of Civil Service, as passed by the Parliament of the Dominion.

In regard to the objection against compulsory payment to the fund, I need only remark that it is a principle invariably incorporated into every pension scheme which has been adopted either in the Civil Service in various countries, or among different religious bodies everywhere.

I hereto append a copy of the circular sent to each Inspector, asking for this information. Should you desire it the replies received will be enclosed for your perusal.

I have, &c.,
(Signed) E. RYERSON.

The Hon. Alex. Mackenzie,
Treasurer of Ontario.

COPY OF POSTAL CARD SENT TO INSPECTORS, 19TH FEBRUARY, 1872.

"Please inform Department, without delay, of the number of petitions for and against the Superannuation Clause; also, what is the present state of feeling among Teachers on the subject."

Dr. Hodgins answered several questions on point of detail connected with the subject.

It was then moved by Mr. Alexander, and seconded by Mr. Watson, "That this Convention approves of the principle of a superannuation fund for public school teachers," but this was subsequently withdrawn, and upon the previous amendment being submitted to a vote by the public school teachers it was lost, and the original motion was declared carried.

Subsequently a vote of thanks to Dr. Hodgins, for his explanation of the superannuation fund, was unanimously passed.

PROFESSOR ROBINS' ADDRESS.—In addressing the members of the Association, Professor Robins, of Montreal, referred to the past difficulties of the profession in Canada, and said he was glad to think and hope they were advancing. With regard to the Province of Quebec, he said he was sorry to say things were not in such a good state as in Ontario, and he hoped those in this Province would do what they could to help forward their cause. He then proceeded to read a paper, upon the difficulties he had met with as an Inspector of Schools in the city of Montreal. He said no teacher could reasonably object to have his school inspected (hear, hear); although he related some rather funny objections he had heard of. Two questions he would pay attention to on this

occasion, and these were—how inspectors should examine schools, so as to know their exact state in regard to spelling, writing, reading, and arithmetic. As to spelling, he did not believe in oral examinations, and preferred dictation and the writing of a short narrative. He would also lay much stress in this way upon good or correct writing, to such an extent as to make letters distinct. He did not quite approve of the "standard" system. He then referred to writing, and said it was impossible to form a proper estimate of it from close examination of one copy, and preferred to have specimens classified and their merits determined upon by comparison with acknowledged standards. In reference to arithmetic, he gave some of his own experience in this department, and said he was in the way of using papers of four grades. Reading, he considered, might be said to consist of pronunciation, emphasis, and intonation, and though he did not think it was a matter in which he could point out what was to be done, he thought it was one in which much might be done by emulation.—In reply to a question, he (Professor Robins) said, in speaking of a pupil who had correctly spelled ninety-three out of one hundred words, he referred to the average pupil. He did not, in arithmetic, allow any merit for questions right in the mode of operation but wrong in the mechanical working. He held the opinion that correctness was the principal thing in arithmetic, although some of the members thought he drew the line too hard in this respect. (Applause.)

Rev. Dr. Ryerson gave the history of the Professor, paying a very high compliment to that gentleman's ability and the brilliant course he had pursued in his scholastic career.—Mr. Hunter moved, seconded by Mr. McCallum, a cordial vote of thanks to Professor Robins, which was cordially passed.

THE HIGHER EDUCATION OF WOMEN.—Mr. Lewis, Toronto, read a paper upon the "Higher Education of Women." Not only did men of the highest ability demand the higher education of women, he said, but women of what he considered abilities equal to those of the other sex also demanded that right. The advantages of education were not those of a class, for it was now recognized that wherever the great mind existed there these advantages ought to be expended. Why, then, refuse it to women? He said that women had proved themselves equal to men in every department of science and literature, and even if it were granted that they were not, this was no reason why the highest educational advantages should not be offered to them. He argued that it was not a question of ability, but of expediency. He thought the present system of things made woman in some ways the next thing to a serf, for no man could exercise the same power over another man as he could over his wife. This state of things began when mere animal force was the ruling power—when might was right. They did not now exercise their powers in such a great degree, but they still shut women out from all the well-paid situations in life on the plea that they were not fit to occupy these places, and that home was their proper sphere. This latter point he granted; but that should not shut her out from all the mental acquirements to which men were admitted. An ill-educated wife was the greatest drawback to advancement a man could have; the offspring were at a loss from having but one proper model to copy from; and the wife was likely to discourage in her children the culture of the mind, in preference to the mere outward decoration of the body. The supremacy of an aristocratic family connection had ceased to rule, an aristocracy of money was taking that place in these western climes; but an aristocracy of intellect was the highest imaginable state of civilization, and in this women must have a part, and be admitted to any office of usefulness and honour for which they were qualified. Women ought no more to be educated so as to fit them for wives than men were merely educated for husbands; and though we heard much of the former being the case, we never hear anything of the latter. There was nothing that men could urge against the opening of all positions in the world and the church to women but prejudice. If women think fit to speak the sentiments we enjoy so much when they write them, what had men to urge against it? Christianity needed new forces to battle with sin and vice, and why not accept the help of woman, than whom there was no power greater, among those of her own sex? She alone had an intuitive knowledge of the finer feelings of women, and knew how to gain her confidence, when the words of advice spoken by a man fell harshly upon her ear. He approved of the admission of women into the medical profession, and accounted for the opposition of medical men to this from the fact that they were afraid of the competition thus offered to them. Trades-unionists themselves had not exceeded them in their endeavours to have things all their own way, nor yet in the disgraceful course adopted to gain this end. The solution offered to the question—"What is a woman to do to make a living?"—was "Marry." This, he considered, was degrading that sacred institution, as well as the name of women. He placed no limit to

the liberties which should be given to women as to what part they may play in the politics of the country, any more than in the other spheres. He believed their influence would purify and refine politics, as it had already done society and religion. He did not quite go the length of advocating the opening up of political situations to women, but he argued that if women showed themselves equal or superior to men in any sphere, they ought to be selected in accordance with their fitness, and not be rejected in defiance of this because of their sex. He was loudly applauded on sitting down, as well as at various times throughout the reading of the paper.—Mr. E. H. Stowe, of Toronto, moved a vote of thanks to Mr. Lewis for his able and interesting paper; and Miss Sherlock, of New York, seconded the motion, which was carried with great enthusiasm. The meeting then adjourned.

FINANCIAL STATEMENT.—The first business on the programme was the reading of the financial statement by the treasurer, which showed the total income for the year to be \$135 93; expenditures, \$76 95; and cash on hand, \$58 98. From this, it appears that the society is in quite a flourishing condition in a financial respect, and compares very favourably with former years. The report was received and adopted.

NEW REGULATIONS AND LIMIT TABLES.—Mr. S. McAllister, Toronto, read a paper on this subject, saying, as he introduced it, that it was not altogether a pleasant subject, in so far as he had to speak of the superiors of the department not altogether favourably. He criticised the way in which they laid down the regulation with regard to the ventilation of schools, and also as to the training of teachers. He approved of the lengthening of the vacations in high schools, and wished the same could be done in public schools. He considered the limit table was impracticable, and even in most cases impossible, with regard to the disposition of time to each subject, in which he would have a number of reforms, though he, at the same time, approved of many. He also objected to granting certificates to Normal School students before they had attained sufficient experience in the Model School.—Mr. Fotheringham proposed a vote of thanks to Mr. McAllister for his very able essay, which, being seconded, was carried unanimously.—After some remarks by several members, Dr. Crowe expressed the opinion that the public examinations were an actual nuisance. After commenting upon writing on paper by children, the time given to each subject, he said he approved of teaching by object lessons. He objected to the model schools, and said the fact was that they were no models at all; for it was impossible that the model could be carried out in practice.—Mr. Deerness thought that putting a limit to the time of attending the model schools was putting a damper upon ability, and took objection to the way in which first-class certificates were granted to those "keeping" schools under third-class certificates for five years.—Mr. Monro said he knew of teachers who had obtained first-class certificates under a recommendation from trustees who could not sign their own name.—Mr. Hunter thought the Normal Schools must have vastly improved since a late report, if six months attendance at them was equal to five years' practical teaching.—Mr. McIntosh said it was a mistake to say that the system of the model schools was a fixed thing, and that teachers were bound to act strictly in accordance with the models there laid down. They were to adopt the principle only so far as practicable. He had found himself immensely helped by the experience he had gained at the Normal School.—Mr. Fotheringham, while believing in keeping by the laws laid down by the Board, was not quite in favour of the style of things with regard to the holidays. He thought the holidays ought all to be given in the summer time, as many boys, especially in the country, could attend only in the winter time, and he thought they should be allowed to have as much advantage as possible.—Mr. Alexander objected to the carrying out the limit time-table in its rigidity, and thought more should be left to the good sense of the teacher, seeing that the state of perfection attained in a certain class was the best criterion of the time to be spent upon the subjects taught in it. He defended the Normal School, and said that only those who had had the advantage of being there could speak regarding it with authority. He also considered the value of the Model School very great.—Mr. McCallum thought the teachers really were allowed a little liberty with regard to the limit time-table. He had his opinion regarding the Normal School, and thought no man had anything to say against that institution, beyond hoping that it would progress with the age.—Mr. Glashan thought a matter which ought to have had more attention was to teach children how to learn; and he held that in this respect the limit time-table was no help. He defended model schools, and said they were not properly understood. He said there was a great difference between the lower classes in towns and in the country; in fact there was no lower classes in the country.—Mr. Mackinnon said he found a difficulty with farmers

with regard to the programme laid down for teachers, in so far as they could not have their children educated in the arithmetical rules which they thought would be useful to them in commercial matters, without they, at the same time, took up the corresponding branches as per the limit time-table.—Mr. McAllister regretted having mentioned Normal Schools, as it seemed to have shaken the red flag in the bull's face—all in connection with that institution had been after him. He replied to several exceptions that had been taken to the remarks in his paper; and after these remarks the subject dropped.

NOMINATION OF OFFICERS.—The committee appointed to nominate officers for the ensuing year, reported in favour of the following gentlemen, who were elected accordingly:—President, Professor Nicholson, Toronto; Vice-Presidents, Messrs. R. Alexander, E. B. Harrison, J. H. Hunter, M.A., D. J. Johnston, G. D. Platt, and Dr. E. Crowle; Treasurer, Mr. S. McAllister; Recording Secretary, M. A. McMurphy; Corresponding Secretary, Mr. Thos. Kirkland, M.A.; Councillors, Messrs. McIntosh, McCallum, Glasahan, Watson, and Anderson.

STANDING COMMITTEES AND DELEGATES.—High Schools—Messrs. Hunter, Strang, Tamblin, Anderson, and Miller. Public Schools—Messrs. Alexander, Lewis, McAllister, McCabe, and Smith. Inspectors—Messrs. Miller, Fotheringham, Scarlett, McCallum, and Turnbull. M. R. Alexander was appointed delegate to represent the Association at the next meeting of the Protestant Teachers' Association of Quebec; Mr. J. R. Miller to be alternative delegate.

HIGH SCHOOL COMMITTEE.—Mr. Hunter moved the adoption of the following report from the Committee on High Schools: That the Teachers' Association would respectfully urge upon the early attention of the Legislature the complete reorganization of the Council of Public Instruction upon a representative basis; and that the Association would further urge the importance of the following provisions: (1) That the Council include one or more properly elected representative of the following classes, viz.:—Masters and Teachers of Collegiate Institutes and High Schools, Masters of Public Schools, and Inspectors of Public Schools. (2) That the representatives of the several interests shall return to their constituents for re-election at intervals of time not exceeding three years. (3) That full reports of the Council's proceedings be published in the *Journal of Education* after each meeting, the various resolutions and amendments proposed, having appended thereunto the names of the movers and seconders, the Yeas and Nays being, in every case of division properly recorded. (4) That an allowance for attendance and mileage be granted out of the Provincial Treasury to non-resident members of the Council. Mr. Alexander moved that the report be referred to the Committee on Incorporation, and that the names of Mr. Hunter and the mover be added to that committee. After a good deal of discussion, Mr. Hunter accepted Mr. Alexander's motion, with the understanding that the combined questions of incorporation and representation shall be taken up by the Legislature next session, and otherwise the principle of representation alone be urged upon them in the terms of his motion.

AUDITORS' REPORT.—Mr. Hunter reported, for the Auditors, that the books of the Treasurer were correctly and carefully kept, and the report was adopted. The meeting then adjourned.

PUBLIC SCHOOL COMMITTEE.—The first clause in the report recommended that an addition of lessons in Natural Science be made to the fourth and fifth text lesson books; and this was proposed in order to keep down expenditure in new books. But it was argued that this would cause the issue of a new text lesson book, against which the country would be certain to appeal. It was therefore negatived by an overwhelming majority. Clause second, also proposed to change the text-books in order to have the meanings of words placed at the beginning of each lesson, as well as the Latin and Greek prefixes, roots, and affixes. This was also lost. Clause third was to the effect that the "Companion to the Reader" should contain some method of teaching the pronunciation of geographical and historical words. An amendment was moved that the pronunciation of the words referred to be inserted in the next edition of the "Readers." The motion and amendment were both lost. Fourth—That every text-book be placed for twelve months in five schools in the district, to have its worth and utility tested before making its use general. It was complained, in connection, that books were placed in the hands of teachers without the least previous notice; and one gentleman asserted, with regard to the sixth text-book last issued, that after he had purchased a copy, which the bookseller asserted was authorized by the Educational Department, the head of that department had actually asserted that it was not yet issued. After discussion, the clause was lost. Fifth—That a standing committee of this Association be appointed, whose duty it shall be to examine the present authorized text-books, and suggest any im-

provements in such; and further, that all new text-books be brought under their supervision, funds being placed at their disposal to enable them to carry out in an efficient manner such duty. Carried.

Further, That the committee were in favour of a Legislative grant to secure the services of a legal adviser for the benefit of this Association, if it do not bear too heavily on the funds. This was negatived also. A vote of thanks to the committee was then passed. Mr. Johnston moved that Mr. Hunter, Mr. Campbell, and himself be appointed a committee to wait on the Attorney-General, and represent the views of the public-school teachers with reference to the superannuation fund, as expressed by this Association after discussion. The motion was carried.

NOTICE OF MEETINGS.

It was moved by Mr. J. Campbell, seconded by Mr. Somerset, "that one insertion of the notice of the annual meeting of the Association be published in the principal daily and weekly papers in this city, at least one week before the meeting." Mr. McCallum moved as an amendment that the notice be inserted in *The Globe* only, seeing that this paper was read by everyone, which could not be said of the rest. Both the motion and amendment were ruled out of order, not having been previously submitted to the Board of Directors.

It was also moved by Mr. Anderson, seconded by Mr. Glasahan, that a committee on text books during the forthcoming year be appointed.

RECEPTION OF DELEGATES.—This business, which had been down upon the programme more than once before, and which the secretary regretted had been delayed on account of the heavy press of other business, was now proceeded with. From the reports given by these delegates it would appear that the local associations they represented are in a flourishing condition and yearly gathering strength, both as regards numbers and public enterprise. It also appeared that in the great majority of counties the feeling against the compulsory payment of subscriptions to the superannuation fund was very great, and the determination to oppose it and have it removed, if legitimate effort would gain that object, has also been very generally adopted. The membership of these associations varied considerably, some of them reaching one hundred. The number of teachers represented by these delegates was somewhere over one thousand. The attendance at the convention has, this year, increased sixty per cent. Mr. J. Campbell said he had a matter of much importance to every teacher to bring up. When the School Bill was discussed in the Local Legislature of Ontario, he attended during a great part of the debates on the various clauses, and was present when the amount of the Legislative grant was appropriated for the year. He was pleased to hear from the President of the Council, Mr. Blake, that the grant was largely supplemented, with the sole object of increasing the teachers' salaries, which he considered very inadequate, and not in keeping with the progress of the country. He did not remember the amount of the supplement, but would ask if any teacher had been benefited in consequence; and he would throw out the hint to those present, that they may use the argument with trustees as a precedent for asking an increase of salary, if the grant cannot be appropriated otherwise than as referred to in the Public School Teachers' Report. Mr. Lewis gave some statistics regarding the salaries paid to teachers in England. The lowest average salary there was \$400 per year, and the general salary from \$750 to \$1,000. Liverpool had lately fixed the salaries as follows:—Head-masters of public schools, \$1,000, with Government grant, which would be equal to something like \$100; head-mistresses, \$600; and the lowest salaries were fixed at \$350 for males and \$250 for females—the class receiving the last quoted scale of pay being certificated teachers on trial. He said we were always told that things were much better in this country than in England; that mechanics were more highly paid, as were all classes of labourers; but what of the comparative salaries of the teachers of the rising generation? He asserted that the cost of living in Canada was much higher than in England; it was so in towns, he was certain; and he presumed things were pretty much the same in the country. He thought this was a matter deserving the consideration of the Association, and at the same time a thing that had little to recommend its continuance as a matter of fair play.

NORMAL SCHOOLS.—The Convention met again in the afternoon. The first order of business before the meeting was Mr. Kirkland's essay upon Normal Schools. That gentleman said he would not, at this late hour, inflict upon his hearers the essay in full, but would give, in as few words as possible, a synopsis of the contents. The first resolution he would propose to discuss in that essay, was that no person should have a certificate of any grade, unless they had some practical professional training. A higher state of training was required before the profession could have the desired respect from the public, and as long as the door was opened to every man

who got tired of working the spade and the hoe by third-class certificates, there was no use asking for higher salaries, since in this, as well as in every other sphere of service, demand and supply must regulate the price of the labour. Mr. Kirkland put his resolution in the following words:—"That as teaching is a profession as much as law, medicine or divinity, its members require professional training; and that no person should receive a certificate of qualification to teach a public school who had not received some professional training." The resolution was carried unanimously. In the second place he proposed that one or more additional Normal Schools should be established as soon as possible. Even three Normal Schools would be far from meeting the wants of the Province. This was also carried unanimously. Third—That in addition to the Normal Schools, there should be a model school in each county, where candidates for third-class certificates and others might receive a professional training under the supervision of the County Inspector. Fourth, That a few scholarships should be established in each Normal School, as in our Provincial University. Fifth—With regard to candidates for High School masterships, he would recommend that after graduating they should be required to pass an examination on the methods of teaching and organization of Schools. To assist them in obtaining a knowledge of these subjects, a lectureship should be established in the Provincial University, the lecturer to be the Principal of a Collegiate Institute or Grammar-school master of not less than five years standing. That the term should be from January to April, and the lecturer appointed only for one term, but may be re-appointed; and that the examining committee consist of the Grammar-school inspectors and the lecturer for the term. Mr. Kirkland's resolutions were all unanimously adopted, and a vote of thanks heartily awarded to him for his paper.

ADDRESS BY THE REV. DR. ORMISTON, OF NEW YORK.

During the discussion of Mr. Kirkland's resolutions on Normal Schools, the Rev. Dr. Ormiston of New York, and formerly of this city, entered, accompanied by Rev. Dr. Ryerson. He was called upon by acclamation to deliver, during the time he might have at command, a few words to the members of the Association. In doing so he said there was a time when he knew almost every teacher in the Province. He was still a teacher himself, had always been, and regarded it as one of the noblest professions, if the duties were performed in the proper spirit. If the duties were performed perfunctory, it was slow murder, and he knew of few men for whom he had less esteem than a teacher so performing his duties. He warned them, if possible, not to wrong the sensibilities of the little ones. For a teacher who had the proper care of the young ones committed to his or her charge, he had the profoundest reverence; it did not matter to him whether that person's hair was black, or golden yellow, or grey with long years of venerable service, nor could he expect each one thoroughly to apprehend all that was necessary for fulfilling the duties to the best advantage, for everyone was not endowed alike with that capacity—let them have a true sense of their responsible duty. For himself, he was not now amongst them, nor could he say that he was actively engaged in their profession; but in heart, he again would assert he was still a teacher. One of the very last duties he had performed in New York was to address, on invitation, about 900 young ladies at the Normal School, and he was glad to see the ladies so well represented on this occasion—the whole of the 900 being engaged in preparing for teaching. (Hear, hear.) He rejoiced in the privilege then bestowed on him. Of course, all the nine hundred young ladies would probably not join the profession of teaching, but the great majority of them would. With regard to the time he had lived and laboured amongst them here, he might say he never lived and laboured anywhere else with more heart and soul than in the very building in which he then spoke. (Hear, hear.) He had devoted all his powers to it without reserve—it was brain-work and heart-work both; he went about among the students as if they were brothers and sisters. Seldom did any words fall from his lips except those of encouragement. With regard to the spirit in which they entered, or should enter, into their work, he said, in the first place, that mental culture was a very small part, though a necessary one, of the teacher's attainments. Love for the work and the children would do more for a teacher of smaller capacity than higher abilities would do for one lacking the proper spirit. Nothing was more required in successful teaching than proper relations with pupils and fellow-labourers; but by all means with the children first. It would never do to appear harsh or arbitrary in their eyes. When the poor little fellow, trembling, was brought up, culprit-like, before an irate master, how was he supposed to feel? Where was there redress to be found for the poor little fellow? There was no appeal against the decision of that master. From school, many young boys had thus been sent out to the world to pour upon their fellow men at some day the revenge and anger they had treasured up in their

hearts against such treatment; while in others it formed those habits of indifference and servitude to the wills of others which made them the ready tools of wicked and designing men. Find out rather each little nature from the bottom, and by the use of a large lump of loving kindness, cultivate and draw out its better parts. He did not suppose any teacher there would wield the rod too much; but even that was not so bad as scathing rebuke, which raised the rebel within terribly, which lived and grew till it had an opportunity of showing itself. Many a deep dyed villain had thus been bred at school. Be kindly in disposition to each. Bring out as much of kindness as is in them, for though it never repay you here, or redound to your credit, remember the glorious crown it would bring at the last day. He described a scene at San Francisco lately, when a hundred old pupils rushed about him, and each remembered some way in which he had been connected with them in his duties as a teacher; he would not have forgone the pleasure that scene had brought him for anything. He illustrated the power which kindness on the part of a teacher may have on a pupil's mind, after he has grown to manhood, by telling the story of a railroad conductor and a brakeman, who had recognized himself on a train, and referred familiarly to little incidents that had occurred during his connection with them, such little kindnesses are not lost, they will come back by-and-bye with a glorious return. So long as they were engaged in the work, let them enter into it with a deep sense of responsibility. Love the children, do their duty to them, and they would not fail to find a large reward. He hoped they would themselves return from this convention with kind feelings to each other. It was true, and he was sorry it was, even with regard to ministers, notwithstanding the sacredness of their calling, that they sometimes went away from such conventions with feelings of jealousy and envy; that they sometimes descended to detraction and accusation, and that it all generally arose from misapprehension. (Laughter.) He trusted they would avoid that. Let them each love their neighbour teachers, and do not find fault with them, though they do not act just as you do yourselves. Your own way may be best for you, and perhaps for you only; and no doubt each will succeed in their own way. Avoid the Chinese shoe, not only on your foot but in your nature. System and rules, and order might be very good in their place; to put them in force with too great strictness was wrong. He liked the hub-bub of earnest work, and the restless muscle that will yet remove mountains. This was his former opinion, and had not changed his ways yet; he had grown older, but he had also grown the more loving and forgiving the older he had grown. He could find twenty reasons for forgiving a fault now for one that he could have found fifty years ago. He advised them to cultivate a large, liberal and forgiving spirit. He hoped that in this convention they had found some things to show them their duty. Might the young Canadians bless them for what they had been enabled to do for their country? Dr. Ormiston then referred in terms of respect and admiration to Dr. Ryerson who, he said, had been the means of enabling him to do what good he had done in his humble way, and under whom he had studied in Victoria College. In referring to Dr. Ryerson, he said:—

The teacher has a reward peculiar to his work—a living, lasting memorial of his worth. The feelings of loving reverence which we entertain for those who have awakened our intellectual life, and guided us in our earliest attempts at the acquisition of knowledge, are as enduring as they are grateful. I shall never forget, as I can never repay, the obligations under which I lie to the venerable and honoured Chief Superintendent, Dr. Ryerson, not only for the kindly, paternal greeting with which, as principal, he welcomed me, a raw, timid, untutored lad, on my first entrance into Victoria College, when words of encouragement fell like dewdrops on my heart, and for the many acts of thoughtful generosity which aided me in my early career, and for the faithful friendship and christian sympathy which has extended over nearly thirty years, unbroken and unclouded, a friendship which, strengthened and intensified by prolonged and endearing intimacy, I now cherish as one of the highest honors and dearest delights of my life; but especially for the quickening, energizing influence of his instructions as professor, when he taught me how to think, to reason and to learn. How I enjoyed the hours spent in his lecture room—hours of mental and moral growth never to be forgotten! I owe him much, and but for his presence here to-day, I would say more of what I think and feel of his character and worth. He has won for himself a place in the heart of many a young Canadian, and his name will be ever associated with the educational advantages and history of Ontario. May he be spared for many years to see the result of his labors, in the growing prospects and success of the common schools and educational institutions of this noble and prosperous province, whose best interests he has patriotically done so much to promote.

He declared his own decided attachment to Canada, even though

he lived in another land, and finished by asserting that he could never learn to love any other land better. (Applause.)

A cordial vote of thanks was passed to the rev. doctor for his lecture; and Dr. Ryerson paid him some very complimentary remarks, as did also Mr. Lewis and other gentlemen, some of whom had the benefit of studying under his able leadership.

SCHOOL ACCOMMODATION.—Mr. Fotheringham drew attention to the very unsatisfactory accommodation provided in various schools to the serious detriment of the children's health, as well as to the proper discipline of the school. He regretted that the teachers should return from this convention to their homes without making some arrangements for requesting additions and improvements to these public school buildings. He said the trustees appeared to be perfectly willing to do anything in accordance with the law, so long as it did not cost them anything; but when that came to be considered, it seemed the matter was changed. He said the law required only nine square feet of room and 100 cubic feet of air to each scholar, which was less by many times than was allowed to every soldier in the British army; but he pointed out an instance of a school-room containing over eighty scholars which was only 6½ feet in height. (Sensation.) He declared that was worse than the log-houses of thirty years ago—(hear, hear)—which, however, were a little too airy. (Laughter.) He pressed upon the convention to take some mode of impressing its objection to such a bad state of matters upon the Legislature, and moved that the following resolution be carried before Dr. Ryerson by the presiding officer:—"That in the opinion of this convention the school accommodation required by the new School Law is under, rather than above, that demanded by health and comfort, as well as the proper organization and discipline of our schools."

The motion was seconded by Mr. McAllister, and unanimously agreed to.

NORMAL SCHOOL COMMITTEE.—It was moved, seconded and agreed to that Messrs. Kirkland, McMurchy, Fotheringham, Lewis and Anderson, be a committee to take into consideration the questions in connection with Normal Schools.

VOTES OF THANKS.—A vote of thanks to the first vice-president for his able and excellent conduct was passed amid great applause, and great praise was bestowed upon that gentleman for the way in which he conducted the order of business.

It was moved by Mr. Miller, seconded by Mr. Johnson, that the thanks of the Association are cordially tendered to the Chief Superintendent of Education for the use of the theatre of the Normal School on this occasion; to the representatives of *The Globe*, *Leader Mail*, for their excellent reports of the proceedings; to the managers of the Grand Trunk, Great Western, Northern, and Nipissing railroads, for their kindness in granting return tickets to the members of the Association at reduced rates; and to the members of the Society residing in Toronto, for the great amount of work they have voluntarily performed in the interests of the Association.

CLOSE OF THE SESSION.—Mr. Lewis, who acted as chairman in the absence of the first vice-president, then gave a few closing remarks. The National Anthem was sung, three cheers given for the Queen, and the members separated.

PROCEEDINGS OF INSPECTORS' SECTION OF THE ONTARIO TEACHERS' ASSOCIATION.

Mr. Harrison, of Kent, occupied the chair, and Mr. Miller, of Huron, acted as secretary.

Uniformity in Marking Subjects in Teachers' Certificates.—Moved by Mr. M'Callum, seconded by Mr. Brown, and resolved "That the Central Board be called to the desirability of securing greater uniformity in marking the subjects on Teachers' certificates and other matters connected with the examination, and that the following gentlemen be appointed a committee to arrange the matter and report to-morrow—viz., Messrs. Scarlett, Elerham, Smith, Miller, and the mover and seconder."

Marking Work and Deportment in the Public Schools.—Moved by Mr. Platt, seconded by Mr. Smith, and resolved "That Messrs. Brebner, Johnson, and Platt be a committee appointed to suggest a system of marking *Work and Deportment* in the Public Schools."

Public School Regulations.—Moved by J. C. Glashan, seconded by Mr. Somerset, and resolved—"That Messrs. Fotheringham, M'Kinnon, and the mover and seconder be a committee to examine the regulations of the Council of Public Instruction passed under authority of Clause 4, Sec. 119 of Common School Act of Ontario, and to report those they consider beneficial with a view to the collection of such regulations in a School Law Amendment Act."

Report of Committee on Marking Work and Deportment.—Your committee beg leave to suggest with reference to a system of marking in Public Schools, that a simple plan be insisted upon in every

School by the various Inspectors, with the object of securing the regular and punctual attendance of the pupils, showing their general standing, and thus enlisting the interest and co-operation of the parents; and that a committee be appointed by this section of the Association, to devise and mature a thorough scheme for general adoption throughout the Province, and report the same at our next annual session.

The above report was adopted, and the committee re-appointed.

Committee on General Regulations reported only one resolution respecting school accommodation, which was referred to the general body and carried unanimously.

Report of Committee on Examinations, &c.—Your Committee respectfully suggest that the following method be adopted in marking certificates, viz:—

1st. That the scale be from one to six—one the highest, and six the lowest.

2nd. That marks be allowed as follows:—

From 85 to 100	= 1 ;	70 to 85	= 2 ;
" 55 to 70	= 3 ;	40 to 55	= 4 ;
" 25 to 40	= 5 ;	1 to 25	= 6.

In amendment to the above, it was moved by Mr. Fotheringham and seconded by Mr. M'Kinnon, and carried by a small majority, that the percentage obtained by the candidate in the various subjects be inserted instead of the marks 1, 2, 3, 4, 5, 6.

3rd. That no Candidate receive either Third or Second Class Certificates who does not receive in the Third 40 per cent., and in the Second 50 per cent. in each of the subjects Reading, Spelling, Arithmetic, and Grammar.

4th. That the Examination of the Subject Composition be enforced, and a time appointed on Programme of Examination for such subject. The Central Board shall prescribe subjects and attach values.

5th. That Board of Examiners be required to examine first the papers on the following subjects—Reading, Spelling, Grammar, and Arithmetic, and that they be empowered to omit sending all further papers of any candidate who fails in any of the above subjects.

6th. That separate values be given to Reading and Spelling.

7th. That Mensuration be joined to Euclid instead of Arithmetic, and that no distinction be made in the examination of male and female candidates.

8th. In examining Dictation—

1st. That punctuation be not considered.

2nd. That each mis-spelled word in Third Dictation be reckoned 3, and in Second 5; and that the sum of such mistakes be deducted from the total value of paper, and so marked in column.

3rd. That all words incorrectly spelled in all other subjects be counted one half mistake, and that the sum of such be deducted from the value assigned to spelling.

Report as amended, carried unanimously.

I. Papers on Practical Education.

1. DARWING IN PUBLIC SCHOOLS.

The group of art instruction in elementary drawing which is considered suitable to the powers of pupils in day schools comprises five subjects, and includes,—1. Free-hand drawing; 2. Model or Object Drawing; 3. Memory Drawing; 4. Geometrical Drawing; 5. Perspective. A thorough grounding in these subjects is the best preparation for any further study of the higher branches of art education. A pupil, having passed examination as such, would be ready to take hold of the instruction in schools of art, or even to continue his studies by himself in more advanced subjects. The group of five subjects named is that in which the public school teachers of England have to become proficient, and for a successful examination in which, the Government grants a D. S. certificate, stating that the holder is competent to give instruction in drawing in public schools.

The adaptation of this course of study to the graded schools of this country is not a difficult matter the moment the corps of teachers become qualified to teach drawing; and it can be commenced at once in those subjects which the teachers themselves are practising, or have already become proficient in. The order in which the subjects are usually taken will decide the suitability of each to the different schools.

A simple arrangement would be as follows, giving three subjects in each grade or school: in Primary Schools—Free-hand, Model, and Memory; in Grammar Schools—Memory, Model, and Geometrical; in High and Normal Schools—Memory, Model, and Perspective.

I propose to describe to you in what manner and to what degree these objects may be taught in the three grades of schools.

FREE OUTLINE DRAWING.

In the very earliest lessons to the youngest children, drawings on the black-board by the teacher are the only examples used, the illustrations being vertical, horizontal, and oblique lines, singly and in simple combinations, such as angles, squares, triangles; the division of straight lines into equal or proportionate parts, curved lines associated with straight lines on the simplest symmetrical arrangement. That is the commencement of free-hand drawing, the pupils drawing on their slates until the first difficulties are over. A moderate use of Roman capital letters is not objectionable for copies, but too frequent use is wearisome. Very young children will draw best those forms in which there are the fewest possible lines, and those lines expressing the forms of objects they are most familiar with—apples and pears, common crockery-ware, leaves of trees, and flowers, and such like. The older pupils who are drawing free-hand outline from the board upon paper should have their subjects alternated with flat copies to be drawn either the same size as the originals or enlarged a definite proportion, either a third, a fourth, or by measure, as an inch or two inches in height and proportionately in width. As all the black-board lessons are exercises in the reduction of forms, it is well to vary the lessons by practice of the identical size and by enlargements. I have found it not to be a good custom to keep children drawing on slates longer than the time when they attain the power of fairly balancing the forms given them to copy. It is so easy to rub out errors upon slates that carelessness often results from too long practice on them.

In the choice of examples, it should be remembered that diagrams from objects should be represented geometrically, not by views of the objects as seen in perspective, until the pupils have arrived at drawing from objects. The principal use of free-hand outline drawing is to teach pupils the proper use of materials, the names of lines and forms, and to educate the eye in judging of proportion; also to inculcate perception of the beautiful in curves and forms of objects.

The time given per week to drawing should not be less than two hours; with the youngest children, the length of each lesson should not be more than half an hour, *i. e.* four short lessons per week; with those a little older, three lessons of forty minutes each, and with the oldest pupils, who draw upon paper, two lessons of an hour each.

It is of some importance in maintaining interest in the lessons that each should be complete in itself, the exercise be begun and finished in the allotted time; and if this be found difficult, it is better to take simpler examples with less work in them, than either to lengthen the time given, or leave the exercise unfinished. In the same class, if some pupils draw better than others the best may be allowed to draw in books, and the more backward on slates. Each exercise should be criticised by the teacher during the lesson, in addition to the general criticism from the black-board, thus combining individual with class instruction.

The object given as a lesson should be well drawn on the black-board before the lesson begins, and the teacher in giving the lesson should commence by explaining its proportions and general character, and then draw it again, step by step, during the process of the lesson, being followed by the class, line for line, as the form develops on the board.

The standard of quality in outline varies in different countries; but whether a thick or thin line be allowed, it must be the same thickness or thinness everywhere, and the best line, in my opinion, is a thin, gray, unbroken line, without the slightest variation in a whole drawing,—either in colour or breath.

MODEL DRAWING IN OUTLINE.

The model drawing in primary schools should be of an exceedingly simple character, for into the proper practice of it; perspective must more or less enter. Only the elder children ought to attempt it: and the objects used, to be as much as possible those which appear of the same form on all sides. These may be defined as such objects as are turned in a lathe, or made upon a potter's wheel; thus a cylinder, a sphere, a cone, in geometric shapes, a vase without a handle, a goblet, or a wine glass, a saucer, a round bottle; or wooden vessels, such as a bucket, or a round box. These have the double advantages of being symmetrical, enabling the teacher and pupils to use a central line in drawing them, and they will be seen alike by all the pupils, so that the explanations and demonstrations given on the black-board will apply to all the drawings made.

The models used should be painted white, which displays the form better than any colour. If rectangular solids be used, such as cubes, oblong blocks, prisms, square boxes, chairs or such like, the teacher will find himself plunged at once into all the difficulties of linear perspective, beyond the understanding of children so young as those in primary schools.

With regard to the method of teaching and implements used, what I have said with reference to free-hand drawing from flat examples on the black-board, applies similarly to object drawing. Care must be taken in setting a model for the class that it is not placed so near any pupil as to give him a distorted view, or so far away as to be seen with difficulty. The best position with regard to height is that that the top of the object should be, at least, six inches below the level of the pupil's eye. A set of three or four dozen objects should be kept in each class-room, in a cupboard or cabinet reserved for the purpose, and teachers might occasionally exchange models of equal value with each other, so as to give freshness and variety to the subjects; otherwise the pupils might get wearied of drawing the same subjects over and over again.

Combined with free-hand model drawing the definition of plane geometric figures should be taught, and are best taught by being drawn as exercises, as well as learnt by heart. This will be preparation for geometrical drawing, to be afterwards learnt in the grammar schools, as well as being of great value in imparting correct knowledge of common forms.

DRAWING FROM MEMORY.

The third subject for the primary schools is drawing from memory.

I attach the very highest importance to the systematic development of memory drawing as an element of education, and art education is incomplete without it. Beginning with geometric forms of a given size, it will be found possible to lead even the children in primary schools to reproduce entirely from memory the copies which they have already drawn, however elaborate and full of detail they may be. All the memory exercises will consist of recently finished drawings, the proportions of which will be easily remembered, though at first it may be necessary that the teacher should describe to the class some of the leading characters of the example given, to refresh the memory before the pupils proceed to draw it. At the conclusion of the exercise, the best and the worst efforts should be taken to the board, and their good and bad qualities pointed out and criticised, and an accurate drawing of the example be put on the board for each pupil to contrast and compare with his own work. He should then be allowed to correct and revise his drawing from the teachers examples upon the board. Home exercises in memory drawing may also occasionally be required of the pupils, with much advantage.—*From Professor Smith's lecture in Boston, on Drawing.*

2. IMPORTANT RULES FOR SCHOOLS.

The following "Institute Jottings" were adopted by a Teachers' Institute at Beaver, Pennsylvania. They will be found as useful here as in that State. Teachers will find them valuable.

- Never be late at school.
- Make few, if any, rules.
- Never allow tale-bearing.
- Avoid governing too much.
- Visit the schools of others.
- Never punish when angry.
- Never magnify small offences.
- Cultivate a pleasant countenance.
- Never be hasty in word or action.
- Teach both to precept and example.
- Never let a known fault go unnoticed.
- Require prompt and exact obedience.
- Labour diligently for self-improvement.
- Encourage parents to visit the schools.
- Subscribe for some educational journal.
- Never compare one child with another.
- Never attempt to teach too many things.
- Never speak in a scolding, fretful manner.
- Make the school-room cheerful and attractive.
- Never let your pupils see that they can vex you.
- Banish all books at recitation, except in reading.
- Ask two questions out of the book for every one in it.
- Never trust to another what you should do yourself.
- Never indulge in anything inconsistent with true politeness.
- Never use a hard word when an easy one will answer as well.
- Never tell a pupil to do anything unless convinced he can do it.

3. HOW INDIAN TEACHERS TRAIN THEIR PUPILS.

The game of memory, as practised by the Ojibways and Northern Indians, has been found profitable, both for recreation and amusement as a branch of object teaching. The Indian chief, or teacher, in his rude way, has from twenty to fifty or more sticks cut, made sharp or pointed at the larger end, and split at the top an inch or two. These sticks are then placed around in a circle, a short distance from each other; then various substances (a single specimen

on each stick at the top) are distributed around the circle in order, beginning on the right hand of the teacher, and proceeding around in the order of the numbers—one, two, three, &c. The Indians, or class, are then allowed to go around the circle slowly and take a strict and scrutinizing look at each specimen in the order of the numbers, one, two, three, and thus around the circle. This is done silently. The sticks or specimens are then removed, and placed by the teacher: and then the class, on going round a second time, each one in order, is to tell the teacher as far as possible without mistake what specimen is contained in stick number one, two, three, &c., and so on around the whole circle.

With the Indians, the first specimen will probably be the birch-bark to make canoes; the second, a little tobacco; the third, the fur of a beaver; the fourth, a bit of calico; the fifth, the feather of a particular bird; the sixth, the bone of some sort of fish; and so on, different substances in the different sticks planted around the circle. The one who can repeat without mistake up to the highest number receives the premium or reward. The consequence is the perceptive faculties are called into exercise, and each individual will soon learn to discriminate so sharply that he will be able to track a wolf over dry leaves in the forest, as well as a white man can track the same animal in the snow. You will ask: How can they do it? I reply, that they do it very readily by observation and sharp inspection, by first noticing a leaf with holes in it, the middle hole, or holes, a trifle larger and in advance of the other hole or holes, near the centre holes. These two holes they know, by observation, were made by the toes of the wolf, and they immediately put down a stick by this first leaf thus marked, and search for a second, third, and fourth, and so on, putting a stick at each leaf thus marked. By these sticks in a row they can find the course the wolf was travelling, and follow on till they find where the animal drank at a spring, perhaps, and they soon discover his den among the rocks or caves near by. By this mode of sharp inspection they become acquainted with the habits of the wild animals, and also gain a knowledge of the different plants and trees, and turn their knowledge to a good account for their individual welfare.—*Commoner.*

4. PUNISHMENT OF PUPILS IN SCHOOL FOR CONDUCT OUT OF SCHOOL.

The authority of the teacher over his pupils, and his duty to watch over their conduct, and strive for their well-being, are clearly and forcibly shown in the charge of one of the Superior Court Judges of Massachusetts to a jury, having under consideration the case of a teacher who punished a boy for mischievous conduct out of school hours. The action was brought under the plea, not that the punishment was unduly severe, but that the teacher had no right to punish for misconduct out of school. Said the judge: "The relation between the teacher and the scholar is a peculiar one. It partakes, while the pupil is in school, of a parental character, and is absolute and without appeal from any quarter, when exercised within its proper limit. Such is also the power of the parent. His authority is absolute at home on the same conditions. A good parent desires to cooperate with the teacher, and is thankful for any proper correction of his child. A good teacher desires to aid parents by training his pupils in habits of good order and obedience to authority. Between the school and home the jurisdiction of teacher and parent is concurrent. If the teacher sees or knows a boy to violate the laws, if he finds him acquiring habits of a dangerous character, if he sees him becoming vicious, and his example injurious to others, or calculated to affect his own standing at school or at home, it is his duty to interfere to restrain and reform. For this purpose it is his right to punish to a reasonable extent, if no other method will avail. But the teacher must hold himself responsible to the law in his punishments, and be careful not to transcend in severity its humane and proper limits."

This is putting the case strongly, and leaves no doubt of his intention and meaning. Parents should learn that they have exclusive power, authority and right over their children, only when used for the well-being of the same, and for the ultimate good of society.

5. UNIFORMITY OF TEXT BOOKS

Can but be desired by all lovers of progress and utility. Teachers should know what books are to be used, and fit themselves to highest usefulness and a familiarity with those same books, not that he should confine himself to those alone. I have seen a small school this present winter where parts of four series of reading-books are used, one of which in its different editions caused additional trouble. Parents of these scholars were poor, and it would have been a great hardship to have purchased new text-books at present prices, throwing away those already on hand. Uniformity

will add to the value of our teachers' labours many per cent, and give greater zest to study by making it uniform and without the discommoding now experienced. Town uniformity, at least, should be attained, since it is required by law.—*J. W. Lang, in Maine Journal of Education.*

II. Papers on Agriculture.

1. AGRICULTURAL COLLEGES.

The following plea for the necessity and utility of Agricultural Colleges we extract from Commissioner Eaton's report on the Colleges, Academies, Common Schools, and Technical Schools in the United States:—

He says: The Agricultural College must not be overlooked. Agriculture is one of our great industries; indeed, the whole of modern industrial life is founded upon its proper development. The system of education bequeathed to us by the past took no notice of this great industry, and made no provision for the training of young farmers. On the one hand, it was urged that to fit boys for any specialty, more especially for dealing with the soil, was to degrade them from men into farmers; and on the other, that all training in schools led but to fancy farming, which was scientifically correct, but without return. Many of the objections, of which the above are a type, have been shown to be groundless. Agriculture makes more use of the sciences than any other industry. The fertility of the soil depends upon its chemical elements and their relative proportions; the returns of the crops depend upon meteorological phenomena, the prediction of which by science will often save large amounts of produce from destruction; without the physical agents—light, heat and electricity—vegetation is impossible. The Agricultural College has been founded to give instruction to persons intending to be farmers in the scientific generalities and many of the details bearing upon farm life. In many of their promoters a tendency may be noticed to extend the usefulness of these institutions by making them a thorough training-school in science. If this scheme should ever be fully realized we should have two systems of collegiate instruction—one founded upon literature, with the addition of the sciences, and the other founded upon the sciences with the addition of literature.

2. HORACE GREELEY ON GOOD AND BAD HUSBANDRY.

Necessity is the master of us all. A farmer may be as strenuous for deep ploughing as I am—may firmly believe that the soil should be thoroughly broken up and pulverized to a depth of fifteen or thirty inches, according to the crop; but, if all the team he can muster is a yoke of thin, light steers, or a span of old spavined horses, which have not even a speaking acquaintance with grain, what shall he do? So he may heartily wish he had a thousand loads of barn-yard manure, and know how to make a good use of every ounce of it; but if he has it not, and is not able to buy it, he can't always afford to forbear sowing and planting, and so, because he cannot secure great crops, do without any crops at all. If he does the best he can, what better can he do?

Again: Many farmers have fields that must await the pleasure of nature to fit them for thorough cultivation. Here is a field—sometimes a whole farm—which, if partially divested of the primitive forest, is still thickly dotted with obstinate stumps and filled with green tenacious roots which could only be removed at a heavy, perhaps ruinous cost. A rich man might order them all dug out in a month, and see his order fully obeyed; but, except to clear a spot for a garden or under very peculiar circumstances, it would not pay; and a poor man cannot afford to incur a heavy expense merely for appearance's sake, or to make a theatrical display of energy. In the great majority of cases, he who farms for a living can't afford to pull great stumps, but must put his newly cleared land into grass at the earliest day, mow the smoother and pasture the rougher portion of it, and wait for rain and drought, heat and frost, to rot his stumps until they can easily be pulled or burned out as they stand.

So with regard to a process I detest known as Pasturing. I do firmly believe that the time is at hand when nearly all the food of cattle will, in our Eastern and Middle States be cut and fed to them—that we can't afford much longer, even if we can at present, to let them roam at will over hill and dale, through meadow and forest, biting off the better plants and letting the worse go to seed; often poaching up the soft, wet soil, especially in spring, so that their hoofs destroy as much as they eat; nipping and often killing in their infancy the finest trees, such as the sugar maple, and leaving only such as hemlock, red oak, beech, &c., to attain maturity. Our race generally emerged from savagism and squalor into industry, comfort, and thrift, through the pastoral condition—the herding,

taming, rearing and training of animals being that department of husbandry to which barbarians are most easily attracted; hence we cling to pasturing long after the reason for it has vanished. The radical, incurable vice of pasturing—that of devouring the better plants and leaving the worse to form and diffuse seed—can never be wholly obviated; and I deem it safe to estimate that almost any farm will carry twice as much stock if their food be mainly cut and fed to them, as it will if they are required to pick it up where and as it grows or grew. I am sure that the general adoption of soiling instead of pasturing will add immensely to the annual product, to the wealth, and to the population of our older States. And yet, I know right well that many farms are now so rough and otherwise unsuited to soiling as to preclude its adoption thereon for many years to come.

Let me indicate what I mean by Good Farming through an illustration drawn from the Great West:—

All over the settled portions of the Valley of the Upper Mississippi and the Missouri there are large and small herds of cattle that are provided with little or no shelter. The lee of a fence or stack, the partial protection of a young and leafless wood, they may chance to enjoy; but that it is a ruinous waste to leave them a prey to biting frosts and piercing north-westers, their owners seem not to comprehend. Many farmers far above want will this winter feed out fields of corn and stacks of hay to herds of cattle that will not be one pound heavier on the 1st of next May than they were on the 1st of last December—who will have required that fodder merely to preserve their vitality and escape freezing to death. It has mainly been employed as fuel rather than as nourishment, and has served not to put on flesh, but to keep out frost.

Now I am familiar with the excuses for this waste, but they do not satisfy me. The poorest pioneer might have built for his one cow a rude shelter of stakes and poles, and straw or prairie-grass, if he had realized its importance, simply in the light of economy. He who has many cattle is rarely without straw and timber, and might shelter his stock abundantly if he only would. Nay; he could not have neglected or omitted it if he had clearly understood that his cattle must somehow be supplied with heat, and that he can far cheaper warm them from without than from within.

The broad, general, unquestionable truths on which I insist in behalf of food farming are these; and I do not admit that they are subject to exception:

1. It is very rarely impracticable to grow good crops, if you are willing to work for them. If your land is too poor to grow wheat or corn, and you are not yet able to enrich it sow rye or buckwheat; if you cannot coax it to grow a good crop of anything, let it alone; and, if you cannot run away from it, work out by the day or month for your more fortunate neighbours. The time and means squandered in trying to grow crops where only half or quarter crops can be made, constitute the heaviest item on the wrong side of the farmers' balance-sheet; taxing them more than their National, State, and Local Governments together do.

2. Good crops rarely fail to yield a profit to the grower. I know there are exceptions, but they are very few. Keep your eye on the farmer who almost uniformly has great grass, good wheat, heavy corn, &c., and unless he drinks, or has some other bad habit, you will find him growing rich. I am confident that white blackbirds are nearly as abundant as farmers who have become poor while usually growing good crops.

3. The fairest and single test of good farming is the increased productiveness of the soil. That farm which averaged twenty bushels of grain to the acre twenty years ago, twenty-five bushels ten years ago, and will measure up thirty bushels to the acre from this year's crop, has been and is in good hands. I know no other touchstone of farming so unerring as that of the increase or decrease from year to year of its aggregate product. If you would convince me that X. is a good farmer, do not tell me of some great crop he has just grown, but show me that his crop has regularly increased from year to year, and I am satisfied.

I shall have more to say on these points as I proceed. It suffices for the present if I have clearly indicated what I mean by good and what by bad farming.

3. STICK TO YOUR BUSH.

A rich man, in answer to the question how he was so successful, gave the following story:—

"I will tell you how it was. One day, when I was a lad, a party of boys and girls were going to a distant pasture to pick whortleberries. I wanted to go with them, but was fearful that my father would not let me. When I told him what was going on, he at once gave me permission to go with them, I could hardly contain myself

with joy, and rushed into the kitchen, and got a big basket, and asked mother for a luncheon. I had the basket on my arm, and was just going out the gate, when my father called me back. He took hold of my hand and said, in a very gentle voice: 'Joseph, what are you going for, to pick berries or to play?' 'To pick berries,' I replied. 'Then, Joseph, I want to tell you one thing. It is this: when you find a pretty good bush, do not leave it to find a better one. The other boys and girls will run about, picking a little here and there, wasting a great deal of time, and not getting many berries. If you do as they do, you will come home with an empty basket. If you want berries, stick to your bush.'

'I went with the party, and we had a capital time. But it was just as my father said. No sooner had one found a good bush than he called all the rest and they left their several places and ran off to the new found treasure. Not content more than a minute or two in one place, they rambled over the whole pasture, got very tired, and at night had very few berries. My father's words kept running in my ears, and I 'stuck to the bush.' When I had done with one I found another, and finished that; then I took another. When night came I had a large basketful of nice berries, more than all the others put together and was not half so tired as they were. I went home happy. But when I entered I found my father had been taken ill. He looked at my basketful of ripe, black berries, and said: 'Well done, Joseph. Was it not exactly as I told you? Always stick to your bush.'

'He died a few days after, and I had to make my way in the world as best I could. But my father's words sunk deep into my mind, and I never forgot the experience of the whortleberry party; I 'stuck to my bush.' When I had a fair place, and 'was doing tolerably well, I did not leave it and spend weeks and months in finding one a little better. When other young men said, 'come with us and we will make a fortune in a few weeks,' I shook my head and 'stuck to my bush.' Presently my employers offered to take me into business with them. I stayed with the old house until the principals died, and then I had everything I wanted. The habit of sticking to my business led people to trust me, and gave me a character. I owe all I have and am to this motto—'Stick to your bush.'

4. BRAINS AS AN IMPLEMENT OF AGRICULTURE.

If the best farm in Canada, with its fences, gates, roadways, barns, ploughs, horses, cattle, sheep and swine, were left to the unguided course of nature, a very few years would suffice to reduce it to a wilderness occupied by wild animals. No matter how great the capital invested, how great the fertility, nor how excellent all the appliances, the simple withdrawal of judicious control would result in the practical destruction of the whole concern.

To set this machine in motion, and to keep it working profitably and in order, it is necessary that an intelligent man guide all of its operations; and the proposition will not be disputed that the more intelligent the man be, the more profitable will be the result. If the man were himself merely an animal, nothing would be gained by his presence, something perhaps might be lost, for as an animal his instincts are inferior to those of creatures of a lower grade.

Brains, then, the ability to think and the determination to enforce the results of thought, are what elevate the farmer above the level of his cattle, and enable him to control the manner in which they and his land together shall bring about the result that he desires; and, setting aside all æsthetical and philosophical questions connected with the human intellect, we may, for practical purposes, consider the farmer's brains purely in the light of an agricultural implement, since it is their operation, more than that of his ploughs and teams, and more, even, than the fertility of soil, which brings about the result that he seeks.

In the olden time, the land was ploughed with a forked stick, drawn sometimes by a cow and a woman yoked together. But in the best modern practice, gangs of half a dozen ploughs drawn across the field by the power of steam are found necessary to the most successful cultivation. In the various other combinations of wood and iron which are employed in Agricultural operations, an almost equal improvement has taken place; and far be it from us to say that the chief machine of all, that which invents and guides the action of these improvements, has stood still; but we submit, with due deference, that in many, if not even in a majority of instances, the last tool which the farmer has thought it worth while to improve is one in which the first and greatest improvement should have been made.

The intellectual condition of farmers is a result of the operation of natural causes, with which we do not propose to quarrel.

temperature over average of 11 years, + 2°32.

HAMILTON.—Solar corona on 6th. Fire-flies, 13th. Lightning, 11th, 27th, 29th. Lightning with rain, 7th. Thunder with rain, 14th. Lightning and thunder with rain, 10th, 13th. Rain, 1st, 4th, 7th, 8th, 10th, 13th, 14th, 30th. The observer furnishes a list of dates of the blossoming of various plants.

SIMCOOK.—Lightning and thunder with rain, 7th, 12th, 13th. Rain, 3rd—14th. On 1st the sky was strangely and luminously red in N. W. part of horizon, exhibiting at the same time an auroral arc, from N. W. to S. E., faint, but perfectly distinct. The crown of the arc was 61° above north horizon.

WINDSOR.—Lightning, 8th, 11th. Lightning and thunder with rain, 13th. Rainbow, 6th, 14th. Halo, 14th, 15th. Meteors, 21st, N. E. towards E.; 27th, N. towards H.; 29th, brilliant, through Cassiopeia towards H. Rain, 1st, 6th, 7th, 13th, 14th, 27th.

IV. Papers on General Education.

1. HIGHER EDUCATION OF WOMEN.

Among the topics which have engaged the attention of the English Social Science Congress, the Sessions of which have just come to a close, some prominence, as might be expected, has been given to the results of the movements in Great Britain for the higher education of women. At a time when our own Ladies' Association is entering upon its second year under very favourable auspices, it may not be uninteresting to take note of the latest results of the kindred movement observed in the mother country. One of the greatest wants felt in Britain in connection with the educational attainments of ladies was the absence of a test by which their progress and standing could be measured, and as it were certified to the world. The same thing applied to a considerable extent to boys. Different systems being followed at various schools, the mode of education is often loose and superficial. But women who undertook the work of teaching suffered more especially from the lack of an authoritative guarantee of the extent of their attainments. To meet this want the great Universities of Cambridge and Oxford have established a system of local examinations at different centres, open now to girls as well as boys, and at these a certificate from examiners of acknowledged ability can be obtained by those who attain the required standard. From the report of the Cambridge Syndicate of this year it appears that 25 centres now exist for girls' examinations; that last year, out of 443 junior girls examined, 60 per cent. obtained certificates, of whom 10 per cent. passed in honours; and that 242 senior girls were examined, of whom 42 per cent. passed, and 8 per cent. in honours. These percentages have been criticised by some persons as small, but Miss Emily Davies, in a letter recently published in the *Times*, contends that they are in reality encouraging. In an address before the Social Science Congress at Plymouth, Mr. Hastings, President of the Education Department, bore very high testimony indeed to the success of these local examinations, and he wished the girls' centres could be doubled in number, so as to afford greater facilities of access, and to produce more local effect. He urged upon all parents who desired that their daughters should receive a real instead of a sham education to encourage these examinations, and to avoid the schools whose managers shrink from the fair test they afforded of the capacity of teachers. The Senate of Cambridge, he added, by its plan of sending examiners to any girls' school which may apply for them, had done away with the possibility of valid excuse for any schoolmistress who shuns the test of examination.

Next to these local examinations must be noticed the success of Girton College, near Cambridge, established by Miss Emily Davies in 1869, for the purpose of supplying a body of female teachers of the same quality as the masters in public schools, and with their attainments similarly attested. Admission to the institution is not limited to girls intending to make tuition their profession, but the majority of the pupils are of that class, and the great object is to supply teachers of duly authenticated proficiency. The Girton College will doubtless soon have many compeers. So recently as the 18th ultimo we notice that a large meeting was held at Devonport, when a resolution was passed for the establishment of a ladies' college in the neighbourhood, under the auspices of the Devon and Cornwall branch of the National Educational Union—A Society organized for improving the education of women. The system of examinations and the granting of certificates to those who attain the required standard is, we understand, to be adopted by the Ladies Educational Association of this city, and the result, we doubt not, will be highly beneficial to those who either propose at the present time to enter on the duties of tuition, or who, at some future time, from unforeseen circumstances are compelled to choose that profession. We might refer to the work of our Normal Schools in the same direction, but that is too well known to call for notice.

2. REMARKS ON THE HIGHER EDUCATION OF WOMEN.

Ordinary people know very well that women might be much better educated, and indeed, that they might be much better educated themselves. But the principal fact of which they are conscious is that, except in matters of technical knowledge, women are very much on a level with men. They may not study science profoundly, nor be capable of discussing knotty points of law or medicine across a dinner table. Neither do men profess the mysteries of infant management or domestic control. But, take any class of life, men are not found complaining of the lack of agreeable and equal companionship among women; in fact, for purposes of general culture and intelligence, the two sexes educate each other. We should be the last to question the need for improvement, or to discourage practical efforts for it, but this assumption of a vast distance between the culture of men and women is a flagrant perversion of daily experience. The case has been the same at other periods. We have a tolerably complete account of the social life of the last century, and the women of the *Spectator*, and the eighteenth century novels will certainly bear comparison with the men. A material difference, in fact, in this point between the two sexes is only possible where women are secluded from ordinary society. Where the two sexes meet freely in daily converse, it is inevitable that the culture and information of the one sex should spread to the other. Indeed, to take at the present day an ordinary middle-class or upper-class family, we are by no means sure that the boys are generally found to have the advantage of the girls in general culture. They may know more Latin and Greek, they will be very learned in cricket and boating; but if you want a pleasant chat over the new poem or the last discovery, you will be more likely to be gratified by the sisters. They may not be able to go very deeply into the matter, and perhaps if they could you would be unable to follow them. But an intelligent appreciation of the general bearing of current thought is, we think, more likely to be found in the young woman of eighteen, than in the young man of the same age.

The development of the means of education for boys has, no doubt, in obedience to the more imperious necessity, far outstripped the advance in the education of girls. It may be well, moreover, that the means of obtaining the highest education should be open to such women as may be more disposed to a learned than a domestic career. But, speaking generally, the point in which female education chiefly needs improvement is its groundwork. The colleges which have sprung up within the last few years err rather on the side of being too ambitious. It is the fashion for popular authors and divines to give lectures to ladies which their quick intelligence enables them to enjoy; but they do not undergo that strict elementary training which lays the foundation of habits of accuracy and careful thought in well educated boys. Even in this point, however, they share in a great measure the misfortune of the other sex. The method of giving a round elementary education to boys who cannot be kept at school to study Latin and Greek, has yet to be developed among us. It must be sought, and will ultimately be found, in a thorough study of English. But what is wanted is not to teach girls new or abstruse things, but to teach them old and simple things well. We will even be "uneducated" enough to protect against a depreciation of the old "accomplishments." Let them be properly taught, and they may be rendered most efficient means of education; and, after all, if the severity of life is to be relieved by its graces, it is to women that we must look for the charms of music and the fine arts of domestic life.—*London Times*.

3. A DISTINCTIVE CLASS OF ENGLISH UNIVERSITY MEN.

In the heart of my deep admiration and enthusiasm for these beautiful homes of letters, these academic groves and porches of English classics, there was always a growing worm of envy that Americans have no such schools, nor ever can have; and it is not the same thing for them to come here; at best they can but feel as stepsons. I think many of them would love and reverence these hallowed haunts more than the young Britons do who have the privilege of calling them their own, and my countrymen might gain a grace which they lack. I lost my way one afternoon in the mazes of inner courts and fellows' gardens, and came out upon a green bank where a young man was lying under a tree; he had not the college-gown on, but was dressed in a rough gray suit and a straw hat with a ruby ribbon, which looked as if it might have been a young lady's sash, I liked the looks of his back before I saw his face, and asked him the way; he sprang up and with an ease, simplicity, and frankness which one would not find, alas! from Boston to New Orleans, told me through which archway to turn, in a voice so clear and deep and fruity that it was a pleasure to hear him speak. Then I turned away, and he bowed and dropped on the grass again as easily and naturally as he had got up. Now, some of my readers will wonder what in the world I mean; others will understand me;

but I walked away trying to analyze this young fellow's attraction, and why our young fellows do not have it. I came to a good many conclusions, none of which were satisfactory. Our self-consciousness is partly in fault, and this might be helped, though it is not easily got rid of; but it is partly that we want the mellowing influence of venerable and beautiful surroundings; and the worm of envy gnawed again. There is a class of men (I have seen too many not to believe that they belong to a class) on whom this influence of the university seems to rest like a halo all through after-life. They are sometimes to be met in London, but more often in out-of-the-way country villages, generally in the parsonages. Whatever their profession, or whether they have one or not, they love books, befit architecture, philology, Homer, Horace, archæology, heraldry, or gardening. They are seldom rich, but always open-handed; they are not men of rank, but there is not a stoop in their whole nature; they are pious, kind, hospitable, courteous, refined; apt to be a little shy and pensive, yet ready to warm into cheerfulness and gentle geniality at the first spark of sympathy and kindred taste. Their intercourse has a rare charm, and they are quite unconscious of it themselves. Unfortunately, these men have no influence that I could perceive: though they belong to a class, their class has no solidity. They are not much interested in general questions, public measures and events of the day: they are seldom called upon to speak or act upon such matters, and are more wont to have prejudices than opinions: they constitute no society, they follow no leader, they make no school.—*Lippincott's Magazine*.

4. EDUCATION IN FRANCE.

For the greater part of the past year the most eminent and experienced Educationists of France have been devising measures for securing a thorough elementary education to all the people. The result of their deliberations was a bill which, in its main features, has become law:—

"The Primary Schools give instruction in reading, writing, arithmetic, grammar, mathematics, drawing, needle work for girls,—natural history, geography, &c., &c. Morals and religion are to be inculcated in all Primary Schools. Parents and guardians have the right of selecting the schools, or teachers for their children. All who are unable to pay are to be educated free. The municipal councils of villages and towns have the right to decide what children are not able to pay. Every parish is bound to maintain a primary school, and if possible, also one for each sex. When the sexes are mixed—which is to be avoided as much as possible—the teacher must be a woman. The fathers of families in each parish are to decide whether the teachers of the Primary School are to be laymen or members of the teaching religious societies. Where a mother is at the head of a family she is to vote. If it be decided that the teacher is to be a layman, he must produce proper testimonials from the place at which he was educated; if the fathers of families have elected to have a congregational teacher, he must be approved of by the Superior of his Order; if they desire a Protestant teacher, he must be approved by the "Consistoire," or Presbytery. No person can be a teacher in any school who is not twenty-one years of age, who cannot produce proofs of capacity.

There are two kinds of schools noted: Parish Schools and Free Schools; the former supported by the parish or commune with or without state aid; the latter founded and supported by individuals or societies. A teacher of a Parish School must always be of the same religious denomination as the majority of the children. In every Department of France there is to be a Normal School under the surveillance of a commission of five members, chosen by the Council-General of the Department, and appointed for five years. These Ecoles Normales are destined for the education of lay schoolmasters.

The new law, besides the Parish and Free Schools, provides—(1) for Sunday Schools—*les Ecoles du Dimanche*—intended for the instruction of young men whose education has been neglected, and who have no other day on which they could attend classes; (2) schools in workshops and factories; (3) schools in hospitals and prisons; (4) classes for evening teaching in other places than those designated under the general head of schools; (5) libraries in commune or parishes. All these institutions are to be under the Council-General of the Department, or the committee of education in parishes. The school board in every parish is to consist of the mayor, the curé or rector, the Protestant minister or rabbi, when children of those denominations are in the schools of the parish; of five fathers of families when there are not more than 2000 inhabitants in the parish; and of seven fathers of families when the number of inhabitants exceed that number. From these committees members are to be chosen for the school board of the canton, and from those of the various cantons members are to be selected for the school board of the Department.

V. Biographical Sketches.

1. W. B. LINDSAY, ESQ.

It is with very deep regret that we announce the decease of Mr. W. B. Lindsay, Clerk to the House of Commons. The deceased gentleman had for some time been ailing, and expired at his residence yesterday afternoon about half past two o'clock. Mr. Lindsay was a man of far more than average ability and an accomplished scholar. He spoke French as fluently as English, and was thoroughly conversant with Latin, Greek, and other languages of ancient times. He was a man of genial and kindly disposition, ever ready to help a friend or to forgive an enemy. He was the son of the late Mr. W. B. Lindsay, for many years Clerk of the Legislative Assembly of the late Province of Canada, and grandson of Mr. W. Lindsay, who held the same office from 1809 to 1830, whilst Lower Canada possessed a separate Government and Legislature. Mr. Lindsay studied law with the Hon. Henry Black, C.B., the present admirable Judge of the Vice Admiralty Court of Quebec, of whom he was a favourite pupil, and evinced such marked ability both before and after his admission to practice, that many leading members of the Bar predicted for him a most distinguished career as a lawyer. Circumstances beyond his control, we believe, compelled him to throw up prospects so brilliant, and in 1841 he entered the public service as an extra clerk in the Legislative Assembly of Canada. In 1844 he was appointed Assistant Law Clerk and Translator. In 1855 he became Assistant Clerk; in 1862 Clerk of the Legislative Assembly, and in 1867 he was appointed Clerk to the House of Commons.

In the Militia service he held the rank of Major, and for some years he filled the position of Assistant Quarter-Master-General of the seventh Military District of Lower Canada. During the existence of the late Civil Service Rifle Regiment, he held a captaincy in that well-known corps.—*Ottawa Times*.

2. TERENCE J. O'NEILL, ESQ.

It is with unfeigned regret we have to announce the death of T. J. O'Neill, Esq., which melancholy event occurred at Gaspé on the 21st ult., in the 67th year of his age. The deceased had been in delicate health for some months past. Following the advice of his physician, he went to the Lower St. Lawrence, a short time since, for change of air, and in the hope of being improved by the invigorating breezes of the Atlantic. But, alas! Providence otherwise ordained; and the kind husband, the fond father, and the steadfast friend breathed his last far from his home, and separated from some of the members of his family whom he loved so affectionately. Mr. O'Neill was well known and highly respected throughout the length and breadth of the Dominion. For the last forty-three years he has been a resident in Canada, having arrived here in 1829. He filled many positions of honour and trust. For many years he was a Justice of the Peace. He was also Captain of Militia. In 1852 '53, he was President of the Catholic Institute. He was a member of the University Senate. In 1852 he was candidate for Parliament for this city. In 1861, he was appointed Inspector of Prisons, and in 1868, Director of Penitentiaries, being Chairman of the Board at the time of his death. Our deceased friend was an earnest and uncompromising Catholic, an ardent lover of his country. He possessed a mind highly cultivated and well stored with a fund of varied and useful knowledge. He was a gifted and interesting conversationalist, brimful of anecdotes, and *bon mots*, which gave point and charm to the subjects he touched.—*Canadian Freeman*.

VI. Miscellaneous.

1. THE QUEEN AT THE PAPER MILL.

The Queen was riding out in her grand carriage, the horses tossing their plumes as if they felt themselves a little better than common horses, and the footmen all decked out in red, feeling that they had something royal about them. The Queen had always had everything she wanted, and so was quite miserable because she could not think of a want to supply or a new place to visit.

At last she bethought her that they had just been building a new paper-mill a few miles out of the city. Now she had never seen a paper-mill, and so she determined to stop a little way off, there leave her carriage, and walk in, not as a Queen, but as an unknown common lady. She went in alone, and told the owner she would like to see his mill. He was in a great hurry, and did not know that she was the Queen. But he said to himself, "I can gratify the

curiosity of this lady and add to her knowledge; and though I am terribly hurried, yet I will do this kindness." He then showed her all the machinery; how they bleach the rags and make them white; how they grind them into pulp; how they make sheets, and smooth them, and dry them, and make them beautiful. The Queen was astonished and delighted. She would now have something new to think about and talk about.

Just as she was about leaving the mill she came to a room filled with old, worn out, dirty, rags. At the door of this room was a great multitude of poor, dirty men, women and children, bringing old bags on their backs, filled with bits of rags and paper, parts of old newspapers and the like, all exceedingly filthy. These were rag-pickers, who had picked these old things out of the streets and gutters of the great city.

"What do you do with all these vile things?" said the Queen.

"Why, madam, I make paper out of them. To be sure, they are not very profitable stock, but I can use them and it keeps these poor creatures in bread."

"But these rags! Why, sir, they are of all colours, and how do you make them white?"

"Oh, I have the power of taking out all the dirt and the old colours. You see that 'scarlet' and 'crimson'; yet I can make even scarlet and crimson, the hardest colours, to remove and become white as snow."

"Wonderful! wonderful!" said the Queen.

She then took her leave; but the polite owner of the mill insisted on walking and seeing her safe in her carriage. When she got in and bowed to him with a smile, and he saw all the grand establishment, he knew it was the Queen.

"Well, well!" said he "she has learned something, at any rate. I wish it may be a lesson in true religion."

A few days after, the Queen found lying upon her writing desk a pile of the most beautiful polished paper she had ever seen. On each sheet were the letters of her own name, and her own likeness. How she did admire it. She found, also, a note within, which she read. It ran thus:

"Will my Queen be pleased to accept a specimen of my paper, with the assurance that every sheet was manufactured out of the contents of those dirty bags which she saw on the backs of the poor rag-pickers? All the filth and the colours are washed out, and I trust the result is such as even a Queen may admire. Will the Queen also allow me to say that I have had many a good sermon preached to me in my mill? I can understand how our Jesus Christ can take the poor heathen, the low, sinful creatures everywhere, viler than the rags, and wash them and make them clean; and how, though their sins be as scarlet, he can make them whiter than snow; and though they be red, like crimson, he can make them as wool." And I can see that He can write His own name upon their foreheads, as the Queen will find her name on each sheet of paper; and I can see how, as those filthy rags may go into the palace and even be admired, some poor vile sinner may be washed in the blood of the Lamb, and be received into the palace of the great King of Heaven."—*Rev. John Todd, in Sunday-School Times.*

2. 'KEEP THE GOOD TEACHER

Term after term if money will retain him. The loss by frequent changes are great, and yet this, in rural towns, is the rule and not the exception. A new teacher every term, and precious time is lost before an understanding of want and supply, of past attainments and future expectations, of capacity, habit, and disposition is arrived at, from which the teacher can work advantageously. A good teacher is worth one half more the second term in the same school, than a new one of equal ability. He works not only from present attainments, but past experiences. He wastes no time on ground already mastered, or points already gained. He knows where, when, and how; his methods, style, and words are familiar and easier comprehended than those of a stranger. It pays to keep the good teacher and vice versa. Too frequent change of teachers is one of the evils under which our common schools labour.

ALBERT UNIVERSITY.—Not the least interesting and successful of our University Convocations was held in Ontario Hall, Belleville, on Wednesday, 19th. inst.

When the officers of Convocation had taken their places, the Chancellor, in a Latin formula, declared that all things were in readiness for the conferring of the Degrees, Honours, and Scholarships, as required in the University. After prayer by Bishop Richardson, the Matriculating Class was duly admitted. The ceremony of admission consists of the administration of an obligation to the candidate, the delivery of a charge by the Chancellor, and subsequently an address to

the whole class. The pledge and charge are in Latin, and to the following effect: I promise to render respect and obedience to the authorities of the University, to faithfully regard its statutes and laws, to assert its rights and privileges, to bring it into no disadvantage or injury, and to bear myself kindly and honourably toward all my associates. Then do you fear God, honor the king, cultivate virtue, and give due diligence to ensure good discipline in the University. The Address, which was in English, we shall give next week.

The Hon. A. Crooks, D.C.L., in a very neat and appropriate speech, presented Mr. Titus to the Chancellor to receive the Macdonald Bursary. This, it will be remembered, was established at the Convocation of 1870, by the late Hon. J. S. Macdonald. The Hon. Attorney General paid a graceful compliment to the political worth of the departed Canadian patriot and statesman, and warmly congratulated Mr. Titus on his success. The Rev. I. B. Aylsworth, M.A., then presented Mr. W. P. Dyer, for the Second Proficiency Prize at matriculation; and J. J. B. Flint, Esq., Mayor of Belleville, again presented Mr. Titus, for the Holden Prize in English.

The Proficiency Prize was offered by the Senate, and the Holden Prize by Thos. Holden, Esq., ex-Mayor of Belleville. Next followed the presentation of Matriculant Honour Men. These are gentlemen that reach or pass a certain per-centage at their examinations, and take certain additional subjects in any department in which they may be competitors for Honours. Prizes are given for such subjects as the donors or the Senate may designate, and may be for either Pass or Honour Work, or both. But Honour Men must have taken an addition to the Pass Work in one or several departments. Thus it will be seen that one young man, Mr. Titus, took both Pass and Honour Course throughout. W. Kerr, Esq., M.A., presented the Honour Men in Mathematics, viz., Dyer, Titus, Perkins, and Wilbur. Dr. Nichol, of Montreal, presented Titus for Honour in Classics; A. L. Morden, Esq., Mayor of Napanee, presented Titus, Colter, and Dyer for Honours in Classics, and Thos. Holden, Esq., presented Titus and Wilbur in English. For Second Class Honours, Certificates only are given, the candidates not being presented in Convocation. Mr. Titus delivered the Latin Salutatory, and Mr. Dyer the English Oration; both rendered in fine style and well received. The College Anthem, Dr. Crozier's Domine Salvum Fac, was performed with spirit and effect. After this, the candidates for B. A. delivered their Theses as follows: Mr. J. A. Carman on Free Trade; Mr. G. R. Cook on the Political Tendencies of the Age; Mr. C. A. Kingston on the Drama; Mr. D. C. Macintyre on the Open Polar Sea; Mr. J. P. Wilson on the Landmarks of Philosophy; and Mr. E. McMahon on Man the Architect of His Own Fortune, and the Valedictory. These gentlemen were then admitted to the Degree of Bachelor in Arts; Mr. S. B. Burdett to the Degree of Bachelor in Laws; and the Rev. E. I. Badgley, B.A., and E. S. Wiggins, Esq., B.A., Principal of the Ontario Institute for the Blind, at Brantford, to that of Master in Arts in due course. The presentations and admissions were in the usual Latin formulas, and these successful gentlemen were, on their laureation, greeted with due applause. The Theses were bold in thought, of correct, and some, of finished style, and were well delivered. We may be able to give some of these to our readers. We were especially favourably impressed with the style and delivery of Mr. Kingston's, the vigour of Mr. Macintyre's thought, the scholarly and philosophic sweep of Mr. Wilson's, and the fine rendering of Mr. McMahon's. All the gentlemen that have passed to B.A. gave ample proof that they need but diligence and energy to achieve for themselves the highest positions as writers and speakers.

Hon. A. McKellar, in a forcible and happy speech, then presented the following class of Undergraduate Prizemen: Mr. C. A. Kingston for three prizes, one in General Proficiency, one in Modern Languages, and one in Greek verse; Mr. J. P. Wilson for prize in Metaphysics; Mr. D. C. McIntyre for the Sills' Prize in English Prose, and the Wills Prize in the same subject; Mr. P. L. Palmer for the Bull Prize in English Prose and Mr. E. McMahon in French Prose. The Hon.

gentleman expressed his great satisfaction at finding in the class a man from his own county, Mr. Macintyre, whose parents he well knew as worthy pioneers, and whom himself, he had always watched with interest. He also spoke very highly of Albert College, and of the firm devotion of the people that sustained it to the best interests of the country, particularly in their consistent and practical advocacy of the voluntary principle.

Rev. Dr. Wild then presented E. McMahon for Pi Sigma and the Mayor's Prizes in Oratory. Messrs. W. W. Dean, M.A., Master in Chancery; A. F. Wood, Warden, and Rev. James Gardiner, of *C. C. Advocate*, in effective speeches, respectively presented E. G. Ponton for the "Harry Nichol" Memorial Prize in General Proficiency, second year; J. B. Barton for the Gould Prize in Mathematics; and E. L. Chamberlain for the Scott Proficiency Prize. The first was instituted by Dr. Nichol, of Montreal; the second by C. M. Gould, Esq., ex-Warden Co. Northumberland; and the third by C. J. Scott, of Strathroy. Mr. Dean, in his presentation, took occasion to call the attention of the Honourable gentleman present to the work accomplished by the out-lying colleges. Dr. Palmer, Principal of Deaf and Dumb Institute, presented J. W. Wright for General Proficiency. The Undergraduate Honour Men in Modern Languages, Kingston, McMahon and Ponton, were presented by J. Bell, Q. C.; and in Mathematics, Barton and Chamberlain by A. Diamond, Esq. Convocation closed with the National Anthem.

Convocation Dinner in the evening at the Dafoe House was a decided success. Dr. Hope filled the chair, and A. L. Morden, Esq., of Napanee, the vice-chair. The usual loyal and University toasts were given, and heartily responded to.—Bishop Richardson, in his response to the "navy," gave several interesting reminiscences of the war of 1812, in which he served, and took occasion to vindicate the character of his Admiral, Sir James Yew, against the aspersions of cowardice, because he did not more readily come to an engagement. The Bishop showed that his conduct was attributable to caution, as the land forces and the army in the west depended on him for supplies. In response to the "Lieutenant-Governor and the Parliament of Ontario," Hon. Mr. Crooks showed the excellency of our constitution, and the necessity of fidelity to its principles in order to enjoy the fullness of its provisions. Hon. Mr. McKellar spoke of the lack of educational advantages in his youth, and of the service his backwood's diploma had rendered him through life in the energy and vigour it had given him. He also spoke of this young and growing country with satisfaction, and counselled the young men to be true to the heritage of their fathers. Speaking of our developing resources, he said, had there been a road like the Grand Trunk through the country in its early settlement it would have paid for itself in the wood and timber it would have saved from the pioneers' log-heaps. He also showed that the new roads of our own times will soon pay for themselves in the increase of population, and the consequent increased annual payments from the Dominion Government under the Confederation Act. The speeches of the honourable gentleman were timely, effective and well received. Mayor Kerr, in reply to "sister Universities," gave a fervid and eloquent address, rejoicing in the prosperity of all the Universities. He spoke well of all, and stood up manfully for his own. The policy of the late Government in withdrawing special grants he now approved of, though it had cost them much money and labour. Warden Wood argued that there should be a general University law, just as there is a general Public School and High School law. All active Universities might be aided under its provisions; or the Government might do as did the County of Hastings, aid Universities by endowing special chairs. The whole thing could be put under proper supervision, and the public interest secured. All the speeches were lively and to the point, and after a very pleasant evening, the large company separated about twelve o'clock.

The first of the series of public University exercises was the sermon by Rev. I. B. Aylsworth, M. A., before the Senate and University, in the M. E. Church, on Sabbath, 16th. inst. The Rev. Senator, one

of the first graduates of the University, took as his text Daniel xii, 3,— "They that be wise shall shine as the brightness of the firmament, and they that turn many to righteousness as the stars forever and ever."

MR. WOODS' RETIREMENT.—Mr. Woods, the efficient Inspector of the Kingston Schools, in his remarks before the Board of Trustees on his retirement, said: Any person having his experience (Mr. Woods') was well aware of the large amount of work it entailed—the labours of an inspector under the new regulations being increased fully ten-fold; it was one report after another, continuously, to the Education Department, Toronto, and unless they were prepared with care, and devoid of inaccuracies, they would be returned for amendment. Before taking his leave he wished to heartily return thanks for the kindness and respect with which he had been received and treated by the Board in the capacity of superintendent during the past five years, the resignation of which would sever every tie existing between himself and the trustees, except that of good feeling and warm friendship; but in retiring, it was his ardent desire to see the interests of the public schools promoted. He had occupied the chairmanship of the Board of Examiners—that position will also be vacated by him, and the seat assumed by Prof. Dupuis, and he sincerely hoped and trusted that the same cordiality would continue between that gentleman and the teachers and employees of the Board, as when he had the office. Within the past five years, in all his intercourse and dealings with the Public Schools, he had had no occasion to utter a complaint against any teacher or subordinate official; and now he thought, instead of murmurings, there were expressions of regret. The Chairman said he was sure that all deeply regretted the severance which had taken place between Mr. Woods and the Board. Had the duties of that gentleman as Principal of the Collegiate Institute not made it obligatory for him to resign the position of Inspector, there were none, he was certain, who could discharge the labours pertaining to that office to better advantage and meet the approbation of the public more than Mr. Woods. He had devoted many years to the profession of teacher of a prominent institution, was possessed of extensive experience, and was therefore better qualified for inspector than any university graduate or professor of a College.—*Chronicle and News*.

BISHOP STRACHAN SCHOOL.—At the annual distribution of prizes at Wykeham Hall, His Honour Judge Boyd was requested to preside. The rooms were well filled with the pupils and their friends, the teaching staff, the members of the school council and other friends of the institution. In addition to the prize list, the presentation of a beautiful gold medal, kindly offered by Dr. Hodder, physician to the school, to be annually given to the most proficient pupil, was given to Miss Kate Denison, the daughter of Col. Robert Denison. The Chairman, Alderman Harman and others happily addressed the pupils, and expressed their congratulations to the Lady Principal, the Chaplain, and the other teachers, on the success achieved by the school.

VII. Departmental Notices.

GOLD MEDAL FOR TEACHERS IN 1873.

Teachers competing for first class certificates in 1873, will please refer to the letters on page 115, of this number of the *Journal of Education*, from which they will see that Mr. McCabe (a former successful teacher) offers for competition a Gold Medal, to the most successful candidate for a first class certificate in July, 1873. A medal will (D.V.) be given every year by Mr. McCabe as indicated.

PLANS FOR SCHOOL HOUSES, ETC.

Parties preparing these plans will please observe that their plans, to be admitted to competition, must be drawn to the scales indicated, and must be prepared either on separate sheets of paper or with a space of two or three inches between them. The specification should be written on one side of the sheet only.

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HISTORY OF PAYMENT BY RESULTS IN HIGH SCHOOLS.

As considerable misapprehension appears to exist in regard to the introduction of the new principle of "Payment by Results" into our school law, we propose to refer to the subject in this article.

The principle of "Payment by Results," as it is technically termed, has long been applied to the English Elementary Schools, and it has within the last year or two been recommended by the Royal Irish Commission of Inquiry for introduction into the Schools of the Irish National Board.

In 1865, when the amended Grammar School Act was passed, the Education Department for this Province had the matter under consideration. The subject was discussed at the time, and enquiries made into the working of the system. The want of an additional Inspector for the Grammar Schools was, however, felt to be an obstacle to its introduction at that time, apart from the inferior character of very many of the Grammar Schools which then existed.

An important step was, however, taken at that time; and the principle of payment according to the "average attendance of pupils" was then first applied to Grammar Schools. This change was thus explained in the memorandum which was published with the new Act in 1865:—

"The 7th Section of the new Grammar School Act is intended to remove a gross anomaly in the present system of apportioning the Grammar School Fund—a relic of the old law of 1806-8—which gave to the Senior County Grammar School more than to the junior schools unless the average daily attendance should fall below 10 pupils—although every one of these schools may have been vastly superior to the senior school of the county. This section of the new Act reduces the system of apportioning the Grammar School Fund to a simple and equitable principle of aiding each school according to its work. The application of this principle to the Common Schools in the rural sections has given them a much greater impulse forward than the old mode of apportionment on the basis of school population, or length of time during which they might have been kept

open, whether the work was done or not. It has also induced the trustees to keep the school open one or two months longer in the year than formerly. Then, as to the basis of apportionment itself, the subjects of teaching in a Grammar School were designed to differ from those in a Common School. Grammar Schools are intended to be intermediate between Common Schools and Universities. The Common School law amply provides for giving the best kind of a superior English education in *Central Schools*, in the cities, towns, and villages, with primary ward schools as feeders (as in Hamilton); while to allow Grammar Schools to do Common School work is a misapplication of Grammar School Funds to Common School purposes; Common Schools are already adequately provided for. By the law of 1807, and subsequently, the number of classical pupils was fixed at 20, and afterwards at 10. In our regulations we take the latter number."

Under these circumstances it was felt to be undesirable at that time to make any further change in the mode of apportioning money to the High Schools. The subject of "Payment by Results" was, however, not lost sight of; but on the visit in that same year (1865) of Revd. Mr. Fraser (now Bishop of Manchester)—one of the Royal Commissioners to enquire into the State of Education in the United States and Canada—the matter was discussed with him. The Chief Superintendent also that year referred the question to the then Inspector of Grammar Schools, (Rev. G. P. Young,) who thus reported upon it (in his annual report) to the Chief Superintendent, for 1866:—

"I have come to the conclusion, after having devoted much thought to the subject, that, until *educational results* are combined with *attendance* as the basis of apportionment, it will be impossible to devise any scheme of distribution, that shall not be open to grave objections. *More than a year ago*, you asked me to consider whether results might not in some way be reached with sufficient accuracy to be taken into account, to a certain extent, in deciding the grants to be made to the several schools. I stated to you my conviction that it could not be done, with the present provision for the inspection of Grammar Schools. But I feel no doubt that, if the Provincial Legislature were willing to make an additional annual grant of one thousand or eleven hundred pounds for Grammar School inspection, or if such a sum could properly be deducted from the Grammar School Fund, a system of inspection could be organized, that would make the blood flow in a new style through every limb of the Grammar School body, from Windsor to L'Orignal, and from Owen Sound to Port Rowan, and which, at the same time, while leaving several perplexing questions to be settled on their own merits, would render a just and right apportionment of the Grammar School Fund possible."

At length, having secured the appointment of two Inspectors of Grammar Schools, the Chief Superintendent in a Section of the

new Act submitted to the Legislature for its adoption in 1870-71, embodied the new principle in the 37th Section as thus explained in his report for that year :

"THE NEW PRINCIPLE OF 'PAYMENT BY RESULTS.'"

"Our School Law of 1871 has introduced a new principle into the mode of payments to High Schools. Formerly the system adopted was (as in the case of Public Schools,) to distribute the High School Fund on the basis of average attendance of the pupils at the school. This was found to work injuriously to the best class of schools. For instance, a very inferior school with an average attendance, say, of fifty, would be entitled to receive precisely the same apportionment as another school with the same attendance, but which might be greatly superior,—if not the very best school in the Province. To remedy this defect and remove this injustice, a new principle of payment was introduced into the Act—viz: the payment (as it is technically termed in England) "by results," or, as in the words of the Act itself, according to "proficiency in the various branches of study." This principle has been for years strictly applied to Elementary Schools in England, and it is now extended to other classes of schools. The thoroughness of the system of inspection adopted there has enabled the school authorities to do so. We shall not be able at present to go further than the High Schools with the application of this principle; but we trust that by and by, if it be found to work well in the High Schools, we shall be able to apply it to the Public Schools as well.

"In Victoria, (Australia,) 'payment by results,' to the schools, is the system adopted. In the last report of the Board of Education for that country published this year, the Board says:—'The system of 'payment by results,' now in use, appears to be working well, and to give general satisfaction. The fact, that at each examination, each school's force is recorded as having gained a certain percentage of a possible maximum, affords a means of comparison between different schools which, if not conclusive as to their relative merits, is sufficiently so to cause considerable emulation amongst teachers. Indeed, the wish to obtain a high percentage, materially increases the stimulus afforded by the 'result payments.'"

"The three-fold principle upon which High Schools are hereafter to be aided, is declared by the new law to be as follows:—

"Each High School conducted according to law [and the regulations] shall be entitled to an apportionment * * * according—

First—"To the average attendance of pupils.

Second—"Their proficiency in the various branches of study.

Third—"The length of time each such High School is kept open as compared with other High Schools."

"With the aid of the additional Inspector of High Schools, the Department will be enabled to obtain the information required, which will enable it to give effect to the new and equitable system of apportionment."

In the month of August, after the passing of the New School Act, embodying the principle of "payment by results, the Rev. Mr. Young thus referred to the subject of the new Act in his address before the Ontario Teachers' Association:—

"I have chosen, as the subject of my address, the Act recently passed regarding Public and High Schools, with the regulations made, under the Act, by the Council of Public Instruction."

"INSPECTION OF THE HIGH SCHOOLS—CLASSIFICATION OF THE HIGH SCHOOLS—APPORTIONMENT OF THE HIGH SCHOOL GRANT."

"I now pass to the subject of High School Inspection.

"Increased provision for the inspection of the High Schools is undoubtedly required to be made. The task of visiting, twice a year, more than a hundred schools scattered over the Province, is too heavy to be laid on the shoulders of any one man; and (what is of more consequence) the Council of Public Instruction was unable, so long as there was but one inspector, to frame suitable regulations for the apportionment of the High School Fund among the different schools. In the last two reports which I had the honour, as Grammar School Inspector, of giving in to the Chief Superintendent, I showed that the effect of apportioning the Government grant, according to attendance merely, was to empty into the Grammar Schools all the upper classes of the Common Schools. This was the case particularly in Union Schools. Of course nobody used any undue influence to bring such a result about; nevertheless, somehow, it came about. The Common Schools were degraded by having almost all their pupils, male and female, drained off as soon as the children were able to parse an easy English sentence; and the Grammar Schools were crowded with boys and girls for whom a Grammar School course of study was not adapted. For these evils, the only remedy possible, as far as I can see, is to make

the amount of the Government grants to the different High Schools dependent not on numbers alone, but on results likewise. To speak mathematically, what each school shall receive out of the public treasury should be a function of the two variable quantities, the number of pupils in attendance, and the character of the instruction imparted; but, in order that results might be taken into account, more than one inspector is indispensable."

As it was clearly impossible to apply the new principle of "Payment by Results" to the High Schools until a classification of them had been made, the Council of Public Instruction requested the High School Inspectors to make such a classification, and report the result to the Chief Superintendent. This was done some time since, and a plan has been devised for carrying the new system into full effect, if possible, in 1873.

It is a question, however, whether any system of classification of the High Schools will be entirely satisfactory, or at best, anything more than (probably a just) approximation to the relative standing of the several High Schools. The only really satisfactory method of determining the relative standing and excellence of these schools, for the purposes of correct classification, would be to subject the whole of the pupils in them to a uniform test examination on questions prepared and printed for that purpose. The result of such an examination would be to determine, with an almost exact certainty, the relative position which every school should occupy in an official preliminary classification of them. It would also furnish an undisputable starting-point, from which future progress or retrogression could be easily ascertained by the half-yearly examination of the High School Inspectors on their visits to the schools.

I. Papers on Practical Education.

1. TEACHING FROM REAL OBJECTS.

Much has been written within the past few years on the best methods of teaching the younger class of scholars, and nothing has contributed more to improve those methods than the introduction into the school-room of material objects, to be carefully examined and subsequently described. This exercise has been carried to a greater extent in the juvenile schools called *Kindergarten* than in any others, though it has been by no means confined to them, nor was the idea first suggested by the Germans. The writer well remembers exercises of this kind in a school of which he was a member over thirty-five years ago, and which redounded greatly to his own benefit, as they no doubt did to that of all who participated in them. The objects selected were nearly always natural, and he vividly recalls a very close examination which he then made of an expanded chestnut-burr which was to be the theme of his little essay on one occasion. Ever after, if not before, he too could, with the poet,

— "in the ragged burr a beauty see."

This exercise is better than any other calculated to cultivate habits of close attention, at a period when such habits are most easily acquired and to do away forever with all possibility of those loose and superficial ones which characterize most people throughout life, leading to continual inaccuracy and consequent misapprehension of the facts of nature and of life.

Many years after the little exercises alluded to above, the writer was teaching in a country school in Pennsylvania, which was situated in the midst of a pleasant grove—just the kind of situation, by-the-way, for a school-house. Sometimes the interest of the younger scholars in their column of the multiplication table or the spelling lesson would flag. On such occasions he found no other means of stimulating them so successful as the promise of half an hour in the woods, where they could collect wild flowers and acorn cups, and, in the fall, the beautifully tinted autumn leaves. This promise almost universally insured perfect lessons from the whole class, who were generally ready for recitation before the hour for it arrived. On their return they were allowed to lay down a scalloped maple-leaf or a sinuous oak-leaf on their slates, carefully to draw the outline, and then delineate the larger veins and the stem. This exercise was to them a source of never-failing pleasure; and while, instead of interfering with the other lessons, it secured a better performance of them, it also cultivated admirably the organs of form and color, thus training the imagination and developing æsthetic tastes as no other exercise could. I suggest it to teachers, in the hope that some of them may test its efficacy.—*z. Pennsylvania School Journal.*

2. TOYS AS TEACHERS.

The primary use of toys to children is to keep them occupied. A mother thinks what her infant, even when only a few months

old, requires to amuse him, and she selects a bright coloured bird, or a rattle, or something which it can feel, shake and look at. An elder child complains of having nothing to do; and a toy or game is found or a book of pictures or little stories, with which he may amuse himself. The great aim of all those who understand the bringing-up of children is to keep them constantly engaged, and at the same time, though encouraging them to play as long as possible with one toy, yet to change and vary their occupations and amusements as soon as they show signs of mental fatigue or weariness. This constant employment is not only desirable for children, but is really essential for them; they must be doing something, and, as has been well remarked, even mischief is but misapplied energy. Toys are the natural instrument on which this energy and activity should be expended. It is the province of the toy dealer to find objects for the exercise of their minds and fingers, just as much as for the baker to supply them with bread, or the shoemaker with shoes.

Children are essentially active in every sense; and toys cannot properly be called toys at all if they are merely capable of being looked at, and do no more than amuse the eye for a few moments. This fact will often account for the peculiar way in which children take fancies to their toys. Of course the glitter of a new thing, whatever it may be, lasts for some time; but it will be remarked how they generally return to some old plaything, long since bereft of its beauty, because they can *do something with it*. A broken doll, even with no legs and arms, may be dressed and handled as a baby; a horse without legs may be dragged about the floor, and so on; whereas a new picturebook is soon put aside after the novelty of the illustrations is forgotten; and a very elaborate mechanical toy, too delicate even to be handled, is not much cared for after it has been exhibited a few times and has ceased to be a novelty.

While carefully avoiding the mistake of making play a lesson, some few toys if well selected, may impart a vast amount of instruction, and that without the child having to undergo any undue mental strain. It would, of course, be undesirable to give a little boy five or six years old a direct lesson on the principles of the bridge and the use of the keystone. Give him, however, a box of bricks capable of making a bridge with the centering, and show him how to put it together; he will puzzle over it for days, try every sort of arrangement, and unwittingly become gradually and practically acquainted with some important mechanical laws. Again, a little model of a steam engine made to work by gas or spirit, which may be bought for a few shillings, is a most attractive toy. Children will watch it for hours. They see the water poured in; they remark that it is made to boil, and soon has to be replenished; they notice the action of the valves, the piston, the crank, and all the parts. When they come to study the theoretical laws of steam and machines, half the difficulty of their first lesson vanishes. If during his play, the child is so fortunate as to have a really educated nurse or mother, herself acquainted with the outlines of such general knowledge, the child's play may be made, by simple toys, far more educational and interesting than any set lesson, and the result of the instruction far more fixed on his mind than the simplest theoretical idea could ever be by any number of repetitions and learnings by heart.

What is true concerning the box of bricks and the model engine is also true of a number of other toys; that is, they depend for their actions upon certain laws, with which, by a little skill, children may be made practically familiar without any undue taxing of their minds, and during the time they are engaged in play. Of these may be mentioned, the kite, the magnetic fish; hydrostatic toys, with water wells, fountains, &c.; pneumatic toys, such as pop-guns, &c.; tops of all sorts, the kaleidoscope, the magic wheel, &c. All these involve scientific laws which a child may understand familiarly with no more difficulty, if properly put before him, than he usually finds in learning to read.

The feature of the Kindergarten School is that play is really made to a great extent the means of instruction. This idea seems to be capable of greater development than it is at present, even in those excellently conducted institutions. With very young children, particularly in infant schools, the less the instruction partakes of the nature of a regular lesson the better. The importance of early teaching, among the poor especially, is obvious; and yet the evils of straining the mind and overtaxing the energy of very young children, by too rigid a course of training, are most serious. Toys, when carefully selected, seem to supply the means of avoiding the latter evil, and at the same time of securing the early imparting of knowledge.

Reading may be taught entirely by means of the various games and toys with letters and words which are in common use. These toys depend for their interest and attraction on the way they are put before children. With one teacher, they are little better than a dry spelling book; whereas with another, the finding out the diffe-

rent letters and the placing them together like a puzzle may interest a child for hours, during which the infant is learning to read and spell in the best possible manner, and in a way he is least likely to forget. The first four rules of arithmetic, again, may be taught almost entirely by means of cube bricks, and a great step made in the formidable multiplication table, before the child is wearied out with the monotonous repetition of what too often appears to him to be an endless and meaningless list of figures. Writing is the only subject which perhaps requires more direct lesson-work. Even here, however, the 'print' letters used to teach reading may be copied on a slate, their shape learned, and, what is of still greater importance, the power of holding and guiding a pencil imparted, before the copy-book, pot-hook and hanger has made writing an unpleasant and tedious task.

Cookery as a regular subject of instruction in girls' schools has hitherto been looked upon as one of those things which, though no doubt desirable, is unfortunately impossible. Toys, however, seem to prove that this is a mistake. Judging from the collection of cooking-stoves which Mr. Cremer has brought together in his International collection of toys in the Exhibition this year, it is clear that 'pretending to cook' is played at largely by the children of all countries. These stoves, though in miniature, are made large enough, and are so fitted with gas, as to be capable of dressing a small dinner. It would seem that by a regular course of instruction in practical play-cooking, a most agreeable and permanently useful game might be introduced in all schools, to the immense advantage of all classes.

Not only in direct instruction, however, is the use of toys to be considered educational, but those playthings to which a child is accustomed have no small influence on his general tone of thought. To those who are naturally over quiet and studious, those toys should be given which are likely to develop the physical powers, such as a rocking-horse, a cart requiring to be drawn about, a wheelbarrow, a set of gardening tools, a drum, and the like. It would be better to encourage such children to this description of plaything, rather than to allow them constantly to amuse themselves, after the bent of their inclinations, with books, puzzles and other sedentary amusements. For those full of life, and whom it is impossible to keep still for many minutes at a time, the occasional use of the quieter toys which are to be avoided in the former case is desirable. In France, guns, swords, and miniature war implements are looked upon as almost the only plaything for a boy, and this national taste has undoubtedly had a considerable influence on the national character.

A few words should be said of the doll, which is the most natural and universal toy. It must be owned the English taste in dolls is better than that of our neighbours on the other side of the Channel. An English doll is almost always an imitation of a child; the French, on the other hand, is a very fashionable young lady, too often made to imitate as nearly as may be a class of the community concerning whose ways and style all will agree that little children should be as far removed from them and as little familiarized with as possible. It is true that the French dolls have other uses; they serve first as models of fashion; but what we urge is that children's playthings are in themselves sufficiently important not to be merely out of date models of the follies of grown-up persons.

The dressing of dolls may be made a most pleasant mode of teaching a little girl to work. All girls are fond of dressing their own toy-babies, though they soon weary of hemming dusters. By making dolls' clothes exact miniatures of children's garments, so that they will take on and off, agreeable occupation in needlework will be found for a little girl. The child will be easily made to take a pride in having her doll's wardrobe as neat and well worked as she can; and good habits of care, neatness and order may thus be inculcated. In this way, as has already been pointed out, play, and useful instruction, and training may be combined through the agency of toys. In watching a little girl play with her doll, an insight may often be obtained into the mode in which the child herself is being brought up. When young, we all imitate more or less the habits of our elders; and in whichever way a child is seen using her doll, whether it be roughly, kindly, or gently by making a great fuss over its appearance, such as thinking chiefly of the fashion of its dress and ornaments, so may the characteristic features of the treatment that child herself receives at home be frequently inferred.

The cost of toys cannot be taken as a guide to their usefulness or value. To a certain extent, as in all other articles, it is true that, good things cannot be had for nothing, but the most expensive playthings are by no means necessarily the best. Nothing is more desirable than to encourage children as much as possible to make some of their own toys; when they do this, it affords them immense pleasure and amusement. It should also be borne in mind that the fewer playthings a child has in use at the same time the

better. Too many at once encourage restlessness and a continual want of change and variety, and prevent habits of attention and contentment being developed. The art of shewing children how to play to the best advantage, to make toys, and, in short, to enjoy play as much as possible, though natural to some persons, is frequently wanting to a lamentable extent with many nurses, mothers and teachers. A few practical hints on this subject might and should be included in the course of training given to all teachers, and especially to those who devote themselves to infants. (See page 139.)

3. TWO HOURS IN A KINDERGARTEN.

While in the City of Hamburg, I saw a door over which was the single word "Kindergarten." I had seen something of higher education in Prussia, and now saw something of the lower. Sitting upon the little forms, and engaged in a peculiar rhythmic exercise, were sixty-two children, or rather infants, from three to seven years of age. No books whatever were visible. Each child was furnished with drawing-materials, and on many desks were variously cut bits of tin. Little squares of blue perforated paper and yellow crevel, slips of wood fibre, and the various geometric solids, were stored away for use: and the shelves placed the animal, vegetable and mineral kingdoms under contribution.

None of the children could read, and many could not talk plainly. No effort was made to teach them the "mystical lore" of books. This child-garden seemed no place for tasks and work, but only for play—for spontaneous play, so systemised and directed by an adult as to furnish valuable discipline to mind and body. One could readily see that the children were getting, through the testimony of the senses—the foundation of all knowledge—an accurate acquaintance with the external world of matter. Happy in the guidance of a sympathetic and skilled teacher, they were getting naturally and easily what they otherwise would have got with many a blunder, or never got at all. They were discriminating colours, hues, and tints; were learning the forms, measurements, distances and properties of bodies; were passing judgment on the uses, construction and adaptability of organs in the vegetable and animal kingdom. They were making models, drafting plans, developing their muscles by calisthenic concerts, learning the "music of motion" by such marching as would rejoice the strictest drill-master in the realm, and practising the "symphony of sound" by the utterance of cosetting songs, and by the unrestrained, improvised melody of children and birds.

This Kindergarten seemed to be really a nursery, where, by systematic training, all the right powers of the being were developed in a just order and proportion. It was simply a supplement to natural processes. There being no infliction of tasks, either mental or bodily, and light athletic sports alternating with the more sedentary employment, there seemed as little probability of dwarfing the body as of stultifying the intellect. And, on the other hand, if nature's processes are safe, to teach a boy to make skilful and intelligent use of his body, and to know much of the natural world, at a time of life when every faculty is alive to sensuous impressions, cannot tend to produce a dangerous precocity of mind.

But this training seems not only harmless, but very valuable, and very direct in its uses in life. The viciousness of street children is proverbial, and chiefly because of the hap-hazard, Topsy-like development. Again every one who has remarked the meagre results produced by those who teach the nicer mechanical arts and trades to young apprentices can testify to the importance of senses trained to accurate observation, and of fingers and hands skilled in delicate manipulations.

You who sit with self-congratulation in the high places of pedagogy, what would you not give to see in your own pupils the gleaming eye of intelligence, and the calm consciousness of victories won, which I saw in the faces of those infants! We cannot say that education begins in the school-room, but rather with the first darting of the eye in infancy, and from the first flushings of the face from an alert curiosity. At the legal school age our children might be such philosophers in their knowledge of natural objects, and so expert in the management of their bodily powers, as to put our wrinkled cheeks to blushing. A child *must* grow and learn, and that with unexampled rapidity: and, were it possible to arrest the desire for sensuous impressions, he would enter the school-room, when the state admits him, a drifeling idiot. But systematize his culture, follow the course of natural development, lend the guidance of sympathy and skill, and in due time he will pass from the exclusive study of things to the study of books with an awakened interest and an unfeigned devotion to mental pursuits.—*Edna and Taylor, in Indiana School Journal.*

4. AN ENGLISH KINDER-GARTEN.

A new book has just been issued in London, in illustration of the German system of the Kinder-Garten. It is a complete exposition of Froebel's system of infant training. Froebel was the founder of these wonderful schools. At first he took a peasant's cottage at Keilhau, and established a village boy's school, living on potatoes and two rye loaves a week, and labouring with earnest zeal. Then he went on a tour through Germany and Switzerland, to lecture on infant training, and founded Infant Gardens where he could. He founded them at Hamburg, Leipsic, Dresden, and elsewhere. While on his travels, he took many a night's lodging in the open fields, with an umbrella for his bedroom, and a knapsack for his pillow. So beautiful a self-devotion to a noble cause won recognition. One of the best friends of his old age was Ida, Duchess of Weimar, sister to Queen Adelaide of England; and his death took place at a country-seat of the Duke of Meiningen, June 21, 1832, when he was seventy years of age. By this time Infant Gardens are in operation in most of the larger towns of Germany and on the Continent.—*New York School Journal.*

5. THE CHILD, OR FROEBEL'S PRINCIPLES OF EDUCATION.

BY MATILDA H. KRIEGE.

Published by Mr. E. Steiger, New York. pp. 150. Price. \$1.

Though early impressed with the beauty and real importance of the New Education systematized and promulgated by Friedrich Froebel, Madame Kriege wisely deferred to the judgment of others that the public would require first to be shown what it is, before listening with favour to theories however sound.

In what respects is the new system of education superior to that which can lay claim to time-honoured possession? What is its leading idea, and how is it worked out? To what extent is it suited to American conditions? These pertinent questions receive a complete and most satisfactory solution in "The Child, Its Nature and Relations."

It took time to convince even educators that the earliest education is of the first importance, and it took still longer to satisfy them that primary education demanded the best qualified teachers. Any grandam, often of contracted mind and very illiterate, was thought good enough to teach the A B C, followed by the unintelligent spelling of words with their meaning left out. The hornbook, or primer, was the first step in a child's education, and the child unnaturally awed into silence and inactivity, and frequently either chided for inquisitiveness or misinformed, was tortured into learning it by rote. Such an outrage on the childish nature at length forced itself on the attention of thinking men, when nature was discovered to be the only fit and proper subject for contemplation in devising a scheme of education for beings incipiently rational. It was necessary that the scheme should be new, because adequate reform was impossible in the old, radically unsound system; and as great opportunities generally call forth great men, an acknowledged educational exigence brought out the genius of Friedrich Froebel.

With loving earnestness Froebel discerned manifestations in the infant's gambols; intently he watched its first approach to knowledge through the experience of the senses, the awakening of its imagination, its imitative faculty, its first utterances, the dawn and growth of its reason, its every phase of development in its relation to nature, to man, and to God. None of the mute mysteries of childhood escaped his penetrating mind, his marvellous intuition; "the child is father of the man" was the key-note of his analysis, and in him child-nature found its oracle. He may be said to have enhanced the joyousness of children by making it intelligent. Before his day children's plays had been deemed not unworthy of the attention of the philosophic mind, but Froebel turned them into instruments of knowledge. Songs, plays, the delights of the garden became in his hands the means of imparting impressions of the beautiful, the true, and the good; and to foster the love of children, so characteristic of them, for the companionship of children, he invented the Kindergarten. An essential element in Froebel's system is a religious spirit. "I have based my education," said Froebel, "on religion, and it must lead to religion." A religious tone consequently pervades a work of this kind, and it is calculated to awaken the mother's "consciousness that a divine spark glows in the little being in her lap, and to kindle her enthusiasm to nurse it, and to educate a true citizen of Heaven." The system thus tends, in a true sense, to the elevation of woman, and who can doubt that in that is comprehended the well-being of humanity?

Madame Kriege's book may safely be pronounced to be the completest elucidation of the Kindergarten system in the English language; and it appeals at once to the heart and the intellect, to

parents, especially to mothers as the first educators, to all who are interested in human progress, to all who view education as the discharge of an affectionate duty or a grave responsibility, to all indeed who are animated with a love of God or man.

II. Various Papers on Education.

1. TEACHER'S PROFESSIONAL BOOKS.

The older we grow in educational business, and the more we see of teachers and try to realize their needs, the more thoroughly convinced do we become of the high value of good professional books. Each may be an effective, portable normal school to the earnest teacher, better than any number of institutes or association meetings.

The Educational Department has a large supply of these books, and suggests the establishment of Teachers' Professional Libraries, for which the 100 per cent. is allowed to municipal and school corporations.

2. THE DOOR OF ADMISSION TO THE TEACHER'S PROFESSION.

There is no feature of our school system so vital to its success as that which places at the door of every school-room a board of examiners to determine who is qualified to enter there as a teacher and guide of youth. They are the sentries of the school system, and upon their fidelity and efficiency depend, to a great extent, its character and usefulness. No other school officers need a truer conception of their duties, or a more ardent devotion to the cause of education.—*White*.

3. WHAT A TEACHER SHOULD BE.

A good legislator, a righteous judge, a prompt executive, an efficient workman, a competent leader, a liberal partizan, a pleasant master, a warm friend, a good man: apt to teach, acquainted with human nature, earnest, prompt, clear, accurate, enthusiastic; diligent, emphatic, dignified, firm, courteous, forbearing, gentle, cheerful, patient, persevering.

4. HINTS ON THE USE OF CORPORAL PUNISHMENT.

Prof. W. H. Payne closes No. V. of his articles on "School Management," in the *Kansas Educational Journal* with the following: "Corporal punishment is universally regarded as a disgrace; and in cases where the propriety of its infliction is questionable, troubles near or remote are almost sure to arise. As a means of inducing caution, where it is so much needed, the following rules are suggested:

- "1. Use corporal punishment only as a last resort, in case of grave offences.
- "2. The pupil's guilt should be established beyond a doubt.
- "3. As far as possible both teacher and pupil should be free from passion.
- "4. The rod should never be applied to the body above the hips."

5. PERSONAL PRESENCE AS AN AID IN SCHOOL DISCIPLINE.

The power to control and develop character in children is greatly the power of personal presence. Mr. Emerson says the aristocracy of Great Britain have ruled the British Empire for centuries by the magic of lofty manners. John Adams once said Washington succeeded because he knew enough to keep his mouth shut. To talk well and wisely is a great power, and many people greatly influence society by their power of expression. But the teacher who can preserve a manner at once affectionate, powerful, and dignified, and is economical of speech, enters the school-room with a prodigious advantage. Nothing amuses a mischievous crowd of children like a teacher who flies about like a restless hen protecting her brood, with ruffled feathers, clucking her displeasure, and filling the hours with a never ceasing cackle of useless talk. They enjoy the spectacle hugely, knowing she will in due time "run out" and they be left to their own pleasant devices. Our oral system of teaching, with all its advantages, has this great temptation; that it offers the opportunity for one of these loquacious teachers to flood her audience with a thin decoction of learning, seasoned with the pepper and

salt of reproof and moral precept. Avoid too much speech and a restless manner as the worst foes of true success. Cultivate a pleasant dignity and grace, a method of speaking plain, direct, but decisive, and as brief as you can handle. This matter of presence is an outgrowth of character, and you must observe all I have said previously if you desire to succeed in acquiring it. It will surely come with ripening culture and experience, and it is one of the most decided tokens of power in the teacher. There are some people so electric with life that they sway all souls by their presence; wherever they go a virtue seems to pass out of them; their face is a benediction and an inspiration, and dependent souls turn to them as the sun-flower turns to the sun. Aim perpetually to be to your children, not a stern governor or a marplot to all their happiness, but a gracious incarnation of wisdom, justice, and love. The ancients rightly symbolized wisdom in the form of the Goddess Minerva; for only where science is embosomed in a lofty and loving presence, are children won and moulded to a higher life.—*Ohio Ed. M.*

6. EDUCATING YOUNG WOMEN WITH YOUNG MEN.

President White, of Cornell University, has recently visited all the Colleges of the country in which young women are educated with young men, and has given his views on the subject at a meeting in Boston. We infer that, on the whole, he is favourable to the plan, and it is probable that it will be introduced in his University. He says that at Oberlin the best reading of Tacitus was by a young lady; at the Michigan University, a lady carried off the mathematical honours, and the girls stood the highest in the Botany classes; and at Antioch College they ranked very high in the German classes. So far as he could learn, the young ladies held their own remarkably well.

The training of women in the duties of domestic economy is now attracting great attention in England, and an institution is soon to be established under the patronage of the Earl of Shaftesbury, and other distinguished philanthropists, for the purpose of teaching the art of housekeeping. Lessons in cookery and baking bread are to be given, and lectures are to be delivered on food, cooking, house-keeping, the laws of health, and other subjects of importance.

7. EDUCATIONAL LESSONS OF STATISTICS.

At the late National Convention at Boston, a paper, on the "Educational Lessons of Statistics," was read by the Hon. John Eaton, Jr., National Commissioner of Education. Many amusing anecdotes were related of the style of education in the olden time, taken from the ancient records. In Boston, in 1825, public schools were opened for girls for the first time, but two years afterward the applications for admission became so numerous, that Major Josiah Quincy had them closed as a failure. Among the lessons taught by the census of 1870 were the facts that there were 6,550,808 youths under instruction in our public schools, at a cost of \$94,190,166, or \$14 per capita; that the cost per capita in private institutions was over \$8 more than in public ones; that there were 5,553,470 persons in the country who could not write; that while 300,000 voters in America, turning from the one side to the other, would control a Presidential election, this was 1-6 less than the number of illiterate males entitled to vote; that it was proved that educated labour was worth one-fourth more than uneducated labour, and in most of the States this increase would amount to many times the cost of the support of public schools. These facts had a meaning which would be apparent to every one.

8. THE BURNING OF SCHOOL-HOUSES.

As the season of the year draws near when fires are needed to make our school-rooms comfortable, it will be well for teachers and school-officers to take the trouble to examine with care the flues and heating arrangements in their school-buildings, in order to make sure that all is safe. A little care in this matter now may be the means of saving much money and, perhaps, the lives of some of the children. Every year, as the cool weather of the fall comes upon us, we read of the destruction of school-houses by fire, and of the narrow escape of those within. Some of these casualties, doubtless, are due to causes which could not have been discovered; but many of them might have been discovered and prevented by the exercise of a proper care at the right time. We do not think that there is of necessity more danger of fire with the modern furnaces than with the old fashioned stoves, but the furnace is further removed from the eye of the teacher, and hence is more likely to be left to take care of itself. *Illinois Teacher*.

III. Monthly Report on Meteorology of the Province of Ontario.

I. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for JULY, 1872.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—J. M. Buchan, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., LL.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	ELEVATION. a	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.						TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.										
		MONTHLY MEANS.		HIGHEST.	LOWEST.	RANGE.	MONTHLY MEANS.		DAILY RANGE.	HIGHEST.	LOWEST.	WARM-EST DAY.		COLDEST DAY.	MONTHLY MEANS.		A.M. 1 P.M. 9 P.M. MEAN.											
		Above the Lake.	Above the Sea.				7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.				Highest.	Date.		Reading.	Date.		Mean Temp.	Date.	Mean Temp.	Date.							
				North Latitude.a	West Longitude.a	7 A.M. 1 P.M. 9 P.M. MEAN.			MEAN.	Reading.	Date.			Mean Temp.			Date.					Mean Temp.	Date.	Mean Temp.	Date.			
Pembroke.....	45-50 77-10	423-29-102	29-169	29-172	29-174 29-419	9 a.m.	8-28-378	1 p.m. 16	541	251	12	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	15	11-9	22	98-9	15	52-8	30-44-1161	83-0 26	61-48	697	906	767	760	
Cornwall.....	45-0 74-50 137	775-29-0909	29-6735	29-6773	29-0826 29-665	7 a.m.	8-29-473	1 p.m. 16	382	352	12	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	15	11-9	22	98-9	15	52-8	30-44-1161	83-0 26	61-48	697	906	767	760	
Barrie.....	44-5 79-45 59	779-28-4319	28-2035	28-4078	28-3477 28-734	7 a.m.	25-27 525	1 p.m. 2	1-209	479	2	65-76 74-56 67	21-09-17 78-4	57-9 80-5	34-1	1	10-9	118	96-6	2	50-2	25-45-4	2	81-77 23	82-07	536	533	548
Peterboro.....	44-20 78-25	670-29-2164	29-1735	29-1837	29-1919 29-408	7 a.m.	8-28-366	1 p.m. 16	453	418	15	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	1	12-0	29	96-3	1	51-7	23	44-6	2	83-76 23	63-03	.....	.....	.....
Belleville.....	44-10 77-52 72	307-29-5057	29-5783	29-5861	29-5860 29-945	7 a.m.	8-29-363	9 p.m. 4	482	362	31	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	3	10-4	18	91-7	15	54-5	27-37-217	79-80 23	64-46	554	617	611	594	
Goderich.....	43-45 81-42	715-29-1963	29-2020	29-1833	29-1883 29-379	7 a.m.	8-28-896	1 p.m. 16	484	312	4	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	14	12-0	23	92-4	2	44-6	18-47-8	1	81-33 22	59-08	568	569	548	
Stratford.....	43-35 80-45	118-28-7179	28-9459	28-7026	28-7071 28-908	7 a.m.	8-28-483	1 p.m. 16	426	379	3	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	9	10-5	19	88-8	2	48-0	6-40-7	1	80-90 5	60-80	537	539	525	533
Hamilton.....	43-12 79-50 90	324-28-566	28-538	29-553	29-766	7 a.m.	8-29-301	1 p.m. 16	495	425	26	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	6	4-3	21	96-2	3	54-5	6-40-7	2	85-06 31	64-1	579	621	573	591
Simcoe.....	42-51 80-14 150	712-28-9814	28-44-12	28-9864	28-9867 29-148	7 a.m.	8-28-729	1 p.m. 16	419	387	15	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	8	13-8	23	97-0	15	49-8	6-47-2	1	83-33 5	64-5	612	687	590	653
Windsor.....	42-20 83-00	679-29-3407	29-3181	29-3144	29-3344 29-498	7 a.m.	19-29-066	1 p.m. 16	412	287	13	68-6 76-3 71-7	72-20 82-8 69-2	30-6 37-1	9	10-3	23	97-2	2	53-0	27-44-2	2	84-83 23	63-37	584	625	572	593

Approximation. dOn Lake Simcoe. eNear Lake Huron. fOn St. Lawrence. gOn Lake Huron. A On Lake Ontario. i On the Ottawa River. j Close to Lake Erie. m On the Detroit River. k Inland Towns.

STATION.	HUMIDITY OF AIR.	WINDS. NUMBER OF OBSERVATIONS.				ESTIMATED VELOCITY OF WIND.				AMOUNT OF CLOUDINESS.				RAIN.				SNOW.				AURORAS.			
		SURFACE CURRENT.		MOTION OF CLOUDS. a		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.	
		7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.	7 A.M. 1 P.M. 9 P.M. MEAN.	MEAN.
Pembroke.....	97 97 97	11 112 2 71 444	81	2 1 3 3 2 1	1 3 3 2 1	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12
Cornwall.....	55 65 85 79	6 1 3 6 37	721 81	2 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Barrie.....	82 69 79 97	2 2 9 2 11 31	1014 81	2 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Peterborough.....	94 98 97 97	17 2 1 8 414	933 81	6 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Belleville.....	80 65 82 76	4 7 20 10 31	2 7 81	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Goderich.....	78 69 79 75	6 1 7 4 17	6 922 81	6 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Stratford.....	83 69 79 74	1 4 12 14 16	13 19 81	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Hamilton.....	76 60 79 70	1 6 6 1 9 36	123 81	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Simcoe.....	84 61 82 76	2 2 13 8 25	7 24 81	4 20 512	2 2 2 2 2 2	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1
Windsor.....	76 58 79 71	2 13 7 214	710 3 23 81	2 2 2 2 2 2	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1

a Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Pembroke.—Lightning and thunder with rain, 16th, 23rd, 27th.
 Rain, 2nd, 3rd, 10th, 12th, 17th, 23rd, 26th, 27th, 29th.
 Cornwall.—Thunder, 22nd. Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Peterborough.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Belleville.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Goderich.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Stratford.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Hamilton.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Simcoe.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 Windsor.—Lightning and thunder with rain, 1st, 2nd, 3rd, 10th, 16th, 24th, 26th, 28th.
 GODEFRICH.—Lightning, 1st, 2nd. Wind-storm, 3rd. Rain, 3rd, 7th, 9th, 10th, 16th, 17th, 21st, 23rd, 26th, 29th, 30th.
 STRATFORD.—Lightning, 2nd, 9th, 10th, 28th. Thunder, 10th. Lightning with thunder, 7th. Lightning and thunder with rain, 3rd, 16th. Wind-storm, 21st, 26th. Rain, 3rd, 11th, 16th, 18th, 21st, 23rd, 24th, 30th, 31st. Excess of mean monthly temperature over average of 11 years, +2° 5.
 HAMILTON.—Lightning, 2nd, 28th, 31st. Thunder, 30th. Lightning

with thunder, 3rd, 9th. Lightning and thunder with rain, 1st (some trees blown down), 10th, 11th, 29th. Wind storm, 1st. Fog, 29th. Rain, 1st, 4th, 10th, 11th, 16th, 18th, 21st, 23rd, 25th, 26th, 29th, 30th. A faint rose hue in the sky on 2nd, about 8.45 P. M. The observer continues his record of the blossoming of plants.

SIMCOX.—Lightning, 2nd, 12th. Lightning and thunder with rain, 9th. Wind storms, 1st, 10th, 12th, 30th. Rain, 2nd, 4th, 9th, 21st, 25th, 26th, 31st. Remarkably hot, dry month.

WINDSOR.—Lightning, 2nd, 11th, 12th, 15th. Thunder with rain, 12th, 29th, 31st. Lightning with thunder and rain, 11th. Meteors as follows: 1st, one through *Ursa Major*, towards N.; 5th, one through *Cassiopea*, to H.; 6th, two in N. toward S. W.; 13th, two through *Cassiopea*, towards E.; 24th, one through *Cygnus* to *Ursa Minor*; 28th, one in E. toward N. Rainbow, 3rd and 16th. Halo, 15th. Rain, 10th—12th, 16th, 17th, 23rd, 25th, 29th—31st.

IV. Mathematical and Science Department.

1. THE ROMANCE OF ARITHMETIC.

The most romantic of all numbers is figure nine, because it can't be multiplied away or got rid of anyhow. Whatever you do, it is as sure to turn up again as was the body of Eugene Aram's victim. One remarkable property of this figure (said to have been first discovered by W. Green, who died in 1794) is that all through the multiplication table the product of nine comes to nine. Multiply it by what you like, and it gives the same result. Begin with twice nine, 18; add the digits together, and 1 and 8 make nine. Three times nine are 27; and 2 and 7 make 9. So it goes on, up to 11 times 9, which gives 99. Very good; add the digits; 9 and 9 are 18, and 1 and 8 are nine. Going on to any extent, it is impossible to get rid of figure nine. Take a couple of instances at random. Three hundred and thirty-nine times nine are 3051; add up the figures and they give nine. Five thousand and seventy-one times nine are 45639; the sum of these digits is 27; and 2 and 7 are nine.

M. de Maivan found out another queer thing about this number, namely, that if you take any row of figures, and, reversing their order, make a subtraction sum of it, the total is sure to be nine.

For example:

Take 5071

Reverse the figures, 1705

$$3366 = 18, \text{ and } 1 + 8 = 9.$$

The same result is obtained if you raise the number so changed to their squares or cubes. Starting with 62, begin the sum over again. By reversing the digits, we get 26, which subtracted from 62, leaves 36, or $3 + 6 = 9$. The squares of 26 and 62 are, respectively, 676 and 3844. Subtract one from the other, and you get $3168 = 18$, and $1 + 8 = 9$. So with the cubes of 26 and 62, which are 17576 and 238328. Subtracted, they leave $220752 = 18$, and $1 + 8 = 9$.

The powerful be-nine influence of this figure is exemplified in another way. Write down any number, as for example, 7549132; subtract therefrom the sum of its digits, and no matter what figures you start with, the digits of the product will always come to 9.

$$7549132 = \text{sum of digits } 31.$$

31

$$7549101 = \text{sum of digits } 27, \text{ and } 2 + 7 = 9.$$

A very good puzzle has been based on this principle, as follows: Get another person to write down a horizontal row of figures, as many as he likes, without letting you see what he is about from beginning to end of the whole performance. He is then to reckon up the sum of the digits, and subtract that from his row of figures. When he has done this, bid him cross out any figure he pleases from the product, and tell you how many the figures add up, without the crossed-out figure. From the numbers so given you will be able to tell what figure he has crossed out, by only bearing in mind the fact learned above, namely, that if no figure at all had been crossed out, the result would necessarily be 9 or a multiple of 9. Hence you will see that the crossed out figure must needs be the one required to bring the sum given to the next multiple of 9. Supposing, for instance, he gives his result at 37; you may be sure that he has robbed the product of 8, that being the figure needed to restore the total to the next multiple of 9, namely, 45. His sum would stand as under:

$$405678237 = \text{sum of digits } 42.$$

42

$$405678195 = 45; \text{ and } 45 - 8 = 37.$$

There is only one case in which you can be at fault, and that is in the event of a multiple of 9 being returned to you as a pro-

duct. Of course then you will know that either a 9 or a 0 must have been struck out. Had the 9 been struck out in the above instance, the result would have been 36; and if it had been 0, the product would have been 45. Both being multiples of 9, it would be impossible to tell with certainty whether the missing figure were 9 or 0; but a good guess may generally be formed, because if the figures appear suspiciously low in proportion to the time taken to add up the sum, you may speculate that your product has most likely sustained the loss of the highest number.

There is a clever Persian story about Mahommed Ali and the Camels; and though it will be familiar to many of my readers, they will scarcely be sorry to be reminded of it. A Persian died, leaving seventeen camels to be divided among his three sons in the following proportions: the eldest to have half, the second a third, and the younger a ninth. Of course camels can't be divided into fractions; so in despair the brothers submitted the difficulty to Mahommed Ali. "Nothing easier," said the wise Ali. "I'll lend you another camel to make eighteen, and now divide them yourselves." The consequence was, each brother got from one-eighth to one-half of a camel more than he was entitled to, and Ali received his camel back again; the eldest brother getting nine camels, the second six, and the third two.

Johann August Musæus, one of the most popular German story writers of the last century, in his story of "Libussa," makes the Lady of Bohemia put forth the following problem to her three lovers, offering her hand and throne as a prize for the true solution: "I have here in my basket," said the Lady Libussa, "a gift of plums for each of you, picked from my garden. One of you shall have half and one more, the second shall have half and one more, and the third shall again have half and three more. This will empty my basket. Now tell me how many plums are in it?"

The first knight made a random guess at three score.

"No," replied the lady; "but if there were as many more, and a third as many more as there are in the basket, with five more added to that, the number would by so much exceed three score as it now falls short of it."

The second knight getting awfully bewildered, speculated wildly on forty-five.

"Not so," said this royal ready-reckoner; but if there were a third as many more, half as many more, and a sixth as many more as there are now, there would be in my basket as many more than forty-five as there are now under that number."

Prince Wladimir then decided the number of plums to be thirty, and by so doing obtained this invaluable housekeeper for his wife, The Lady Libussa thereupon counted him fifteen plums and one more, when there remained fourteen. To the second knight she gave seven and one more, and six remained. To the first knight she gave half of these and three more; and the basket was empty. The discarded lovers went off with their heads exceedingly giddy, and their mouths full of plums.

Double Position, or the Rule of False, by which problems of this sort are worked, ought to demolish the commonplace about two wrongs not making a right. Two wrongs do make a right, figuratively speaking, at all events. Starting with two wilfully false numbers, you work each out to its natural conclusion. Then, taking the sum of your iniquities as compared with the falsehoods with which you started, you have only to multiply them crosswise to get terms which will bring you straight to the truth. To be more precise, after the cross multiplication, if the errors are alike, that is, both greater or both less than the number you want, take their difference for a divisor, and the difference of the products are a dividend. If unlike, take their sum for a divisor, and the sum of their products for a dividend. The quotient will be the answer. This is good arithmetic, and for those who can receive it not bad philosophy. There is an enormous self-righting power about error; and if we could only manage the cross multiplication properly, we might get some surprising results.

The number thirty-seven has this strange peculiarity: multiplied by 3, or any multiple of 3 up to 27, it gives three figures all alike. Thus, three times 37 will be 111. Twice three times (6 times) 37 will be 222; three times three times (9 times) 37 will be three threes; four times three times (12 times) 37, three fours, and so on.

I will wind up the present with a rather barefaced story of how a Dublin chambermaid is said to have got twelve commercial travellers into eleven bedrooms, and yet to have given each a separate room. Here we have the eleven bedrooms:

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

"Now," said she, "if two of you gentlemen will go into No. 1 bedroom, and wait for a few minutes, I'll find a spare room for one of you as soon as I've shown the others to their rooms."

Well, now, having thus bestowed *two* gentlemen in No. 1, she put the third in No. 2, the fourth in No. 3, the fifth in No. 4, the sixth in No. 5, the seventh in No. 6, the eighth in No. 7, the ninth in No. 8, the tenth in No. 9, and the eleventh in No. 10. She then came back to No. 1, where, you will remember, she had left the twelfth gentleman along with the first, and said: "I've now accommodated all the rest, and have still a room to spare; so if one of you will please to step into No. 11, you will find it empty." Thus the twelfth man got his bedroom. Of course there is a hole in the saucepan somewhere; but I leave the reader to determine exactly where the fallacy is, with just a warning to think twice before deciding as to *which*, if any, of the travellers was the "odd man out."—*Chambers' Journal*.

2. INVESTMENT OF A DOLLAR.

If one dollar be invested, and the interest added to the principal *annually*, at the rates named, we shall have the following result as the accumulation of one hundred years:—

One dollar, 100 years, at 1 per cent.	\$24
do do 3 do	194
do do 6 do	3 408
do do 8 do	2,203
do do 9 do	5,543
do do 10 do	13809
do do 12 do	84,675
do do 15 do	1,174,405
do do 18 do	15,145,207
do do 24 do	2,551,799,404

—*N. Y. Mercantile Journal*.

3. THE NATURAL SCIENCES SCHOOL.

In his inaugural as President of the Ohio Teachers' Association, Mr. Ormsby said.—Bordering the field of our moral nature, combining both the intellect and soul, are those subjects which appertain to art and design, inventions and mechanical skill. A foundation for these may be laid in the public school. The germ of man's æsthetic nature may be unfolded there. The eye may be cultivated to see things and forms of beauty, the soul to appreciate them, and the hand to produce them. This is partly secured by that system of free hand drawing that is so rapidly becoming universal. But free hand drawing is not sufficient. The architect and mechanic use the scale for determining lines and distances; and we neglect one essential part of practical education when we stubbornly refuse the use of instruments in school. If it is an accomplishment to be able with the eye to estimate with great accuracy the length of a line, it would certainly be regarded as a very great defect not to be able to determine it accurately with a scale.

It is supposed that the great master-builder used the square and compass when the foundations of the temple were laid; and every stone in it was prepared in the quarry with instruments. The dome of St. Peters was projected by one who could use instruments with hands almost divine; and why should we in our laudable earnestness in the work of free hand drawing reject the necessary complement of it. We may not introduce extensive systems of mechanical drawing into our common schools, but we can do so much as to develop a taste and talent in this direction; and all over the land, from sea to sea, the temples of grandeur, the dwellings of munificence, and homes of beauty shall tell its utility. Artists, artizans, men in every department of skilled labour, shall work with a more cunning hand.

4. THE STUDY OF NATURE AS A MEANS OF INTELLECTUAL DEVELOPMENT.

"For many years," says Carlyle, "it has been one of my constant regrets that no schoolmaster of mine had a knowledge of natural history, so far at least as to have taught me the grasses that grow by the wayside, and the little winged and wingless neighbours that are continually meeting me with a salutation which I cannot answer! Why didn't somebody teach me the constellations, too, and make me at home in the starry heavens? I love to prophesy that there will come a time when every schoolmaster will be strictly required to possess these two capabilities (neither Greek nor Latin more strict), and that no ingenuous little denizen of this universe be thenceforward debarred from his right of liberty in these two departments, and doomed to look on them as if across grated fences, all his life."

This sentiment of Carlyle's finds an echo in the minds of many scholars of the present day. Having spent years in study, they are yet ignorant of the most important facts concerning the external world, unable to explain the simplest phenomena of nature, blind

to the wondrous beauty of God's creation, and deaf to the divine melody which is uttered in the harmonies of the material universe.

Some affirm that the study of natural science is fatal to the development of our higher emotions, and tends towards gross utilitarianism, but who can study the harmony existing in the works of nature, the manifest order and design displayed in endless change and variety, and the immutable laws which govern the physical world without having his thoughts and aspirations lifted to Him who inhabiteth eternity, the Alpha and Omega. "The heavens declare the glory of God! Day unto day uttereth speech, night unto night showeth knowledge!"—*C. Allen, in R. I. Schoolmaster*.

5. REMARKABLE FACTS IN NATURE.

Everything in nature indulges in amusement of some kind. The lightnings play, the winds whistle, the thunders roll, the snow flies, the rills and cascades sing and dance, the waves leap, the fields smile, the vines creep and run and the buds shoot. But some of them have their seasons of melancholy. The tempests moan, the zephyrs sigh, the brooks murmur, and the mountains look blue.

Thus nature teaches the Old Bible doctrine of a "time for all things."

6. WEATHER INDICATIONS.

A rosy sunset presages good weather; a ruddy sunrise bad weather.

A bright yellow sky in the evening indicates wind; a pale yellow sky in the evening indicates wet.

A neutral grey colour in the evening is a favourable sign; in the morning it is an unfavourable sign.

Soft and feathery clouds betoken fine weather.

Deep, unusual lines in the sky indicate wind or storm. Mere tints bespeak fair weather.

A rainbow in the morning,

The sailors take warning,

A rainbow at night,

Is the sailor's delight.

If the moon shines like a silver shield,

Be not afraid to reap your field;

But if she rises haloed round,

Soon will we reap on deluged ground.

The evening red and morning grey,

Are certain signs of a beautiful day,

When rocks fly sporting in the air,

It shows that windy storms are near.

7. INJURY TO PHYSICAL HEALTH IN THE SCHOOLS.

It is painfully evident that, with very few exceptions, our primary schools especially are doing much to injure the physical health of the children who attend them. At first sight, this may seem to be only a physical evil; but it really proves to be both an intellectual and a moral evil. If the young plant becomes bruised and deformed by bad culture, it must be equally true that young minds may become dwarfed and distorted by improper physical culture. As young plants need the fresh open air and the sunlight, so do young children's bodies.

Our school-houses, as the gardens in which young children are to receive much of their culture, if they do not happen to be so contrived and located as to be little better than pest houses, they are very often made so by improper use. Children are closely shut up in them, in confined air which becomes impregnated with odours from unwashed bodies and clothing and also from diseased and over-loaded stomachs. They are kept inactive and still for four and five hours daily, when their natures require exactly the opposite treatment. These evils alone are so great in multitudes of cases that all the knowledge or training usually acquired, can not be a sufficient compensation.

Physical confinement of young children is unnatural and destructive to their health; but when to it is added the fetid atmosphere of a close unventilated school-room, diseases are not only generated, but perpetuated. Yet one of the most lauded excellencies of a school of fifty or sixty children, is a teacher's success in keeping them all still, and of course inactive, for four or five hours each day. No wonder that the children of such a school become like sickly plants, and die prematurely.

Our healthiest men and women would not only be disgusted, but they would sicken and die as the children do, if they were immured in such school-rooms, sitting quietly five hours daily upon a hard bench. The teachers themselves would not live out half their

days, were they subjected to the same bodily inactivity as their pupils. As it is, how many of our female teachers are tortured from day to day with headaches, foul breath, dyspepsia, and physical exhaustion. We have drawn no fancy picture, neither have we given all the colouring it will bear.—*Ohio Ed. M.*

8. PLANT TREES.

The Gold Hill, Nevada, *Daily News*, says: "in various parts of the country efforts are making to stimulate the cultivation of forest trees, and to check the reckless and wasteful destruction of woods for which Americans have been distinguished. California has engaged a professional arboriculturist, at a salary of \$15,000 a year, to superintend the selection and planting of trees in that State; and if the man is a master of his business, the money paid to him will be well invested. The legislatures of several States are moving in this matter, which commends itself to the favourable consideration of every practical mind.

9. BOYS USING TOBACCO.

A strong and sensible writer says a good, sharp thing, and a true one, too, for boys who use tobacco: "It has utterly spoiled and utterly ruined thousands of boys. It tends to the softening and weakening of the bones, and it greatly injures the brain, the spinal marrow, and the whole nervous fluid. A boy who smokes early and fre-

quently, or in any way uses large quantities of tobacco, is never known to make a man of much energy, and generally lacks muscular and physical as well as mental power. We would particularly warn boys, who want to be anything in the world, to shun tobacco as a most baneful poison."

10. TECHNICAL SCHOOLS IN GERMANY.

Germany has an extraordinary number of schools for special preparation for industrial pursuits, including schools for architects, engineers, business-men, soldiers, farmers, musicians, sailors, surgeons, gymnasts, and for mechanics, designers, telegraphers, artists, wood-cutters, builders, pharmacutists, printers, sewing-women, glass-makers, and for women in various useful branches of arts and sciences, mechanical trades and pursuits. The census of the literary productions in Germany showed over 10,000 works in 1870—1,400 in theology, 100 in philosophy 1,000 in "pedagogy" (the art and science of teaching), 700 in history, 1,000 in law, 100 in mathematics, 250 in geography, 250 in war, 400 in medicine, 500 in natural history, 300 in modern languages, 400 in technical education, 200 in architecture, 350 in agriculture, 100 in woods and forests, 275 in popular works, 275 in young folk's literature, 390 mixed works, and 250 maps.

The Minister of Education of Austria has requested the United States to present at the Vienna exposition a representation of common school instruction adopted in this country.

HEBREW CHRONOLOGY, FROM THE EXODUS TO THE BUILDING OF SOLOMON'S TEMPLE.

BY R. LITTLE, ESQ., INSPECTOR, COUNTY HALTON, ACTON, ONTARIO.

Number of Judge.	Number of Oppressor.		From Exodus to Building of Temple.	From the Entrance into Canaan to the overthrow of Ammon.	From the Division of the Land to the end of Samuel.	From Othniel, the 1st Judge, to the Building of the Temple.		YEARS B. C.
			YEARS	YEARS	YEARS	YEARS		
		MOSES.....	40	...	...	...	Num. xiv. 33.....	1592
		JOSHUA.....	...	...	...	...	Josh. xiv. 7. 10.....	1552
		(1) Before the Division of the Land.....	6	6	...	...	Jos. Ant. v. 1. 19.....	1546
		(2) After the Division of the Land.....	19	19	19	...	...	1527
		ELDERS.....	9	9	9	...	Jos. Ant. vi. 5. 4.....	1518
		ANARCHY.....	18	18	18	...	Judg. iii. 8.....	1500
		CHUSAN.....	8	8	8	...	Judg. iii. 11.....	1492
		OTHNIEL.....	40	40	40	40	Judg. iii. 14.....	1452
		EGLON.....	18	18	18	18	Theop. Ad. Aut. L. 3.....	1434
		EHUD.....	8	8	8	8	Jos. Ant. v. 4. 3.....	1426
		SHAMGAR.....	1	1	1	1	Judg. iv. 3.....	1425
		JABIN.....	20	20	20	20	" v. 3.....	1405
		BARAK AND DEBORAH.....	40	40	40	40	" vi. 1.....	1365
		MIDIAN.....	7	7	7	7	" viii. 28.....	1358
		GIDEON.....	40	40	40	40	" ix. 22.....	1318
		ABIMELECH.....	3	3	3	3	" x. 2.....	1315
		TOLA.....	23	23	23	23	" x. 3.....	1292
		JAIR.....	22	22	22	22	" x. 8.....	1270
		PHILISTINES AND AMMONITES.....	18	18	18	18	...	...
				300			" xi. 26.....	1252
		JEPHTHAH.....	6	...	6	6	" xii. 7.....	1246
		IBZAN.....	7	...	7	7	" xii. 9.....	1239
		ELON.....	10	...	10	10	" xii. 11.....	1229
		ABDON.....	8	...	8	8	" xii. 14.....	1229
		PHILISTINES } AND } SAMSON, }	40	...	40	40	" xiii. 1.....	1221
		ELI.....	40	...	40	40	" xv. 20.....	1181
		SAMUEL.....	45	...	45	45	1 Sam. iv. 18.....	1141
					450		Acts xiii. 20.....	1096
		SAUL.....	40	...	...	40	Acts xiii. 21.....	1056
		DAVID.....	40	...	...	40	1 Kgs. ii. 11.....	1056
		SOLOMON.....	4	...	...	4	1 Kgs. vi. 1.....	1016
		Years from the Exodus to the Building of the Temple... }	580	...	...	480	1 Kgs. vi. 1.....	

The great design of the above Chart, in the construction of which no violation of Scripture language has been made, is to determine the exact length of the period extending from the Exodus to the building of Solomon's Temple.

The basis of calculation is founded on the two statements that from the entrance into Canaan until the overthrow of the Ammonites by Jephthah was 300 years, (Judges xi. 26), and that from the division of the Cisjordanic territory by Joshua until (the end of) Samuel's Judicature was 450 years (Acts xiii. 20).

The complete harmony existing between these two dates results from the adoption of 8 years as the length of Ehud's judgeship in accordance with the reading of the copy of the Bible of Theophilus, the celebrated Bishop of Antioch, (Ad. Aut. l. iii), though he preferred and used the more general reading 80.

The number 8 is corroborated by Josephus, who says in his Antiquities (v. 4. 1.) that "the Israelites were brought under slavery by Jabin, the King of the Canaanites, and that before they had a short breathing time after the slavery under the Moabites." The historian would never have applied the italicized expression to a period of eighty years, which, however, is quite applicable to one of eight years.

Our readers will observe that the 480 years of 1 Kgs. vi. 1, seem to be counted from the first year of the first Judge Othniel, and that the whole period from the departure from Egypt to the building of the first temple was 580 years.

V. Miscellaneous.

1. MONOSYLLABIC POEM ON WORDS.

The following curious illustration of the power of short words in the English language was written by Dr. Addison Alexander :—

Think not that strength lies in the big round word,
Or that the brief and plain must needs be weak ;
To whom can this be true who once has heard
The cry for help, the tongue that all men speak,
When want, or woe, or fear is in the throat,
So that each word gasped out is like a shriek
Pressed from the sore heart, or a strange wild note
Sung by some fay or fiend ! There is a strength
Which dies if stretched too far or spun too fine,
Which has more height than breadth, more depth than length.
Let but this force of thought and speech be mine ;
And he that will may take the sleek, fat phrase,
Which glows and burns not, though it gleam and shine ;
Light, but not heat—a flash without a blaze.

Nor is it mere strength that the short word boasts,
It serves of more than fight or storm to tell—
The roar of waves that clash on rock-bound coasts,
The crash of tall trees when the wild winds swell ;
The roar of guns, the groans of men that die
On blood-stained fields. It has a voice as well
For them that far-off on their sick-beds lie,
For them that laugh, and dance, and clap the hand
To joy's quick step, as well as grief's low tread,
The sweet, plain words we learn at first keep time
And though the theme be sad, or gay, or grand,
With each, with all these may be made to chime,
In thought, or speech, or song, or prose, or rhyme.

New Dominion Monthly.

2. WORDS AND SENSE.

Words are like leaves ; and where they most abound,
Much fruit of sense beneath, is rarely found.
False eloquence—like the prismatic glass,
Its gaudy colours spreads on every place :
The face of Nature—we no more survey,
All glares alike, without distinction gay :
But true expression, whate'er it shines upon,
It gilds all objects, but it alters—none.
Expression is the dress of thought, and still
Appears more decent—as more suitable.

3. CURIOUS FACTS ABOUT WORDS.

Marsh tells us that the number of English words not yet obsolete, but found in good authors, or in approved usage by correct speakers including the nomenclature of science and the arts, does not probably fall short of one hundred thousand. A large portion of these words, however, do not enter into the living speech, the common language of daily and hourly thought. Some celebrated English and American orators have been able, upon occasion, to summon at their command one-half of this vast array of words, although they habitually content themselves with a much less imposing display of verbal force. Few writers or speakers use as many as ten thousand words ; ordinary persons of fair intelligence not above three or four thousand. If a scholar were to be required to name, without examination, the authors whose English vocabulary was the largest, he would probably specify the all-embracing Shakespeare, and the all-knowing Milton ; and yet, in all the works of the great dramatist there occur not more than fifteen thousand words, in the poems of Milton not above eight thousand. The Old Testament uses but 5,642 words. The whole number of Egyptian hieroglyphic symbols does not exceed eight hundred, and the entire Italian operatic vocabulary is said to be scarcely more extensive. *Illinois Teacher.*

4. WORDS OF WISE MEN.

—A fault concealed is a fault doubled.
—Each one is the son of his own words.
—Song charms the sense ; eloquence the soul.
—Prosperous friendship has more bran than wheat.
—The childhood shows the man, as morning shows the day.
—It is easy to undertake, but more difficult to finish a thing.
—Temptations are enemies outside the castle, seeking entrance.
—You may find your best friend or your worst enemy in yourself.
—A knowledge of our weakness creates in us a charity for others.
—A slowness to applaud betrays a cold temper and an envious spirit.

—The greatest ornaments of an illustrious life are modesty and humility.

—He who buys too many superfluities may be obliged to sell his necessities.

—Above all other features which adorn the female character, delicacy stands foremost.

—Sentiments of friendship which flow from the heart, cannot be frozen in adversity.

—Real happiness is cheap enough ; yet how dearly do we pay for the counterfeit.

—The light of friendship is like the light of phosphorus, seen best when all around is dark.

—A wise man will desire no more than what he can get justly, use soberly, and distribute cheerfully.

—A cheerful temper, joined with innocence, will make beauty attractive, knowledge delightful, and wit good natured.

Suffering, rightly borne, weakens the part of us which should be weak, and strengthens that part which should be strong.

—Such is the force of imagination, that we continue to fear long after the cause which produced the fear has ceased to exist.

—As pride is a vice that seldom escapes without punishment, so humility is a virtue that scarcely ever goes without a blessing.

—There is a kind of magic in truth which forcibly carries the mind along with it. Men readily embrace the dictate of sincere reason.

—We should be careful to deserve a good reputation, by doing well ; and when that care is once taken, not to be over anxious about the success.

—False happiness renders men stern and proud, and that happiness is never communicated. True happiness renders them kind and sensible, and that happiness is always shared.—*Virginia Monthly Visitor.*

5. LITERARY MEN HOLD OUT WELL.

Mr. Carlyle, Sir Charles Lyell, and Mr. Darwin are all over three score and ten. Sir Roderic Murchison recently died in full harness at a very advanced age. Of French authors, Michelot, who has just published his thirtieth historical work, "History of the nineteenth century," is seventy-four ; Guizot, at the age of eighty-five, is publishing a history of France in monthly parts ; another busy historian, Mignet, is seventy-six ; Victor Hugo is in his seventy-first year ; and Littré of the same age still contributes an occasional book, and edits a review. America's older literary gentlemen are all well advanced.—Alcott, Emerson, Longfellow, Bancroft, Holmes, and numerous others. Socrates, in an extreme old age, learned to play on musical instruments ; Cato, at eighty years of age commenced to study the Greek language ; Plutarch, when between seventy and eighty commenced the study of Latin ; Boccaccio was thirty-five years of age when he commenced his studies in polite literature. Yet he became one of the greatest masters of the Tuscan dialects ; Dante and Petrarch being the other two. Sir Henry Spelman neglected the sciences in his youth, but commenced the study of them when he was between fifty and sixty years of age : after this time he became a most learned antiquarian and lawyer. Dr. Johnson applied himself to the Dutch language but a few years before his death. Ludovico Monaldesco, at the great age of one hundred and fifteen, wrote memoirs of his own times. Ogilby, the translator of Homer and Virgil, was unacquainted with Latin and Greek till he was past fifty. Franklin did not fully commence his philosophical pursuits till he had reached his fiftieth year. Dryden, in his sixty-eighth year, commenced the translation of the *Iliad*, his most pleasing production.

6. TRUE AND FALSE MANNERS.

The difference between the true manners and the false is just that between the real features and flesh of the face and a mask. So all effective cultivation of manners must begin with man. Make him generous, intelligent, refined, affable, sympathetic, and his actions will naturally tend to politeness as the smoke curls upward. True, this is not all : but this is the alphabet of which all else is application. Having these, it needs but a constant effort to express them in the simplest, noblest, most natural manner, to acquire the best manners.

7. READ THIS, BOYS.

A gentleman advertised for a boy to assist him in his office, and nearly fifty applicants presented themselves to him. Out of the whole number, he in a short time selected one and dismissed the rest. "I should like to know," said a friend, "on what ground you selected that boy, who had not a single recommendation." "You are mistaken," said the gentleman. "He had a great many. He wiped his feet when he came in, and closed the door after him,

showing that he was careful. He gave up his seat instantly to that lame old man, showing that he was kind and thoughtful. He took off his cap when he came in, and answered my questions promptly and respectfully, showing that he was polite and gentlemanly. He picked up the book which I had purposely laid upon the floor, and replaced it upon the table, while all the rest stepped over it or shoved it aside, and he waited quietly for his turn, instead of pushing and crowding, showing that he was honest and orderly. When I talked with him I noticed that his clothes were carefully brushed, his hair in nice order, and his teeth as white as milk; and when he wrote his name I noticed his finger-nails were clean, instead of being tipped with jet, like that handsome little fellow's in the blue jacket. Don't you call those things letters of recommendation? I do, and would give more for what I can tell about a boy by using my eyes ten minutes than all the letters he can bring me."—*Virginia Monthly Visitor*.

8. THE WILLS, THE WON'TS, THE CAN'TS.

There are three kinds of men in the world—the Wills, the Won'ts, and the Can'ts. The first effect everything; the others oppose everything. "I will" builds our railroads and steamboats; "I won't" don't believe in experiments and nonsense; while "I can't" grows weeds for wheat, and commonly ends his days in the slow digestion of bankruptcy.

9. WHAT MAKES THE MAN?

Good clothes do not. Money does not. A handsome face does not. Learning does not make the man. But it is

"A beautiful soul, a loving mind,
Full of affection for its kind;
A helper of the human race,
A soul of beauty and of grace,
That truly speaks of God within,
And never makes a league with sin."

This makes the man—the real man. Such men do good in the world. They are a benefit to themselves, and a benefit to society. Such men will finally shine as stars of the universe, illuminating the vast vault of eternity. Such men let us strive to be through life, in death, and throughout eternity.—*L., in Kentucky Collegian*.

10. TO INTEREST BOYS IN FARMING.

Mr. J. Harris, of Rochester, N. Y., one of the editors of the *American Agriculturalist* and who was tendered a professorship in the Cornell University, illustrates some of the means by which boys may be interested in the affairs of the farm, by the following personal reminiscences and suggestions:

When I was a boy my father made me keep the accounts of his farm, and I soon began to take an interest in it. He had ten children, and worked hard to give us a good education. When crops were poor, or prices low, it was with a heavy heart he sat down at night to tell me what to write in the book, and though young, I soon learned to sympathize with him. Like all good men, he loved his children. He worked hard for us, denied himself many luxuries, that we might have a good time; would wear an old hat that we might have new shoes, and often walked that we might ride. Never was a happier set of frolicking young ones on a farm. And there is not one of us this day that does not love farming. But those who talk of the "independent life" of a farmer—of his freedom from care and anxiety—merely show their ignorance.

There was plenty of anxiety on our farm. There was anxiety about the weather, about the crops, about the stock, and above all, about the health and life and limbs of the children. We ought all to have been killed half a dozen times over. One was kicked by a horse, and ran a narrower chance of life than he has ever done since, and yet he has been through the war, has been up and down the Mississippi on a steamboat, and travelled the whole length of the Erie Railroad. "Aunt Hattie," as we now call her, had her head cut open with a donkey cart, and a sad house we had for many days, as she lay between life and death. Another sister, when three years old, caught hold of the spokes of the fore wheel of a heavily loaded waggon, and was thrown forward, and the wheel grazed her whole body. My father was driving, heard the scream, and looked round in time to see the danger, but not in time to stop the team. Fortunately the nurse held on to the child and jerked her out of the rut before the hind wheel reached her. Last fall the eight children, who are still living, all met together, and it was found that every one of us had some scar that remained to remind us of the accidents of early life.

But what I wanted to say was, that the habit of keeping the books of my father was not only a benefit to me, but a great comfort to him. He told his fears, and I know now that it must have

been a great relief to him. It certainly was a great advantage to me. If I know anything about farming, I learned most of it from my father. And I am fully persuaded that if a farmer would provide a nice substantially bound book, and induce his son to write down every day, at his dictation, all that was done on the farm, it would go a great way towards making a good farmer of him. It would be useful. I can imagine some such record as this:

September 1st.—"Very dry weather. Cultivating for wheat." And then the boy would be very likely to ask when he was going to sow, and what kind, and why.

Sept. 2.—"Sow had ten little pigs last night, but killed two of them." "It is too bad," says the boy, "to lose them now, pigs are so scarce and high, and they say a rail nine inches high put round the pen, six inches or so from the boards will prevent a sow from lying on the pigs." "I thought of doing it," says the farmer, "but I could not find the hammer, and we have no spikes." Mental reflection by the boy: "Those two pigs at six weeks old would have sold for ten dollars."

Sept. 3.—"Thrashing. The five acres of Diehl wheat on the summer-fallow gave 150 bushels; the ten acres of Mediterranean after oats, gave only 120 bushels." "If we had sown it all Diehl," says the boy, "we should have had 450 bushels instead of 270." If the father is a sensible man he would correct this remark, and point out the fact that it was not the variety, but the condition and character of the land that made the difference.

Sept. 4.—"One of the horses sick." He had been on the thrashing machine all day, and the driver, to save his own horses, had made the farmer's do pretty much all the work. This horse was on the outside, and his end of the evener was no longer than that of the horse having the inside track, and he had to draw just as hard as the other and walk much faster.

Sept. 5.—"Drew the wheat to the city. Left at home ten bushels of Diehl for seed, and twenty bushels of Mediterranean. The Diehl overran four bushels, and the Mediterranean fell short three bushels. Got \$2 a bushel for the Diehl, and \$1.75 for the Mediterranean. The five acres of Diehl came to \$280, and the ten acres of Mediterranean \$175.

Now let a farmer tell his son such facts, and let him write them down as they occur, and the chances are that five years will not pass before the farm will be at least partially drained, weeds will have disappeared, thirty bushels of wheat and two tons of hay per acre will be the rule rather than the exception, and there will be little danger of that young man seeking a clerkship in the city.

11. CHILDREN'S TOYS—WHERE THEY ARE CHIEFLY MADE.

Toys for the million are peculiar to the age. Wood is by far too dear in this country for their production, consequently the chief seat of their manufacture is in the dense woods of Germany. From out the old sombre pine forests of Thuringia issue the penny boxes of toys destined to make the homes of all Europe ring with joyous laughter—children's tea things, Noah's arks filled with only the leading animals, soldiers, &c., and the most "screechingest" articles that ever delighted the urchins' ear and maddened the old folk. How so many pieces as go within these boxes can be made, brought from such a distance, and sold with a profit for a penny, is a marvel that can be only understood when the mystery of their manufacture is inquired into. In the first place the pine wood costs next to nothing; women and children are chiefly employed in their manufacture; and great speed in their production is obtained by the division of labour, every toy passing through half a dozen hands. It would, at first sight, seem impossible that the lathe should be used in the production of animals, but here we have an example—a ring of elephants if we may use the term. All those who have been abroad are familiar with the round rings of bread, eight or ten inches in diameter, seen in bakers' shops. In a toy case we saw what at first sight appeared to be one of these, but upon examining it more narrowly we perceived that it was a ring of pine wood turned in a lathe, not exactly in the form of a ring, but in the form of a ring of elephants—there were the trunk, the peculiar shaped head, and the legs cut around the ring, as it were; and it was evident that the workman had only to split this ring into a sufficient number of segments (according to appropriate thickness) to transform the circle into a

GIVEN NUMBER OF ELEPHANTS.

These segmental elephants require, of course, to be rounded and finished by the hand, but the process is most curious, and is applicable to the production of any other animal and accounts for the cheap rate at which these wondrous toys can be produced. When manufactured, they come to this country by water carriage. Of course art is out of the question in these penny articles; but the

imagination of children is lively enough to fill up all deficiencies, and, as may be expected, their sale is immense. But quality is also to be looked for from Germany. Some of the best modelled toys in the world come from Grunheincher, in Saxony, where modelling is attended to in a most artistic manner. Prussia, where the schools of art are fast educating the people in all matters of design, is the seat of those elegant little toys in which the details are made of papier-mache. In Germany the Government educates its children in the construction of toys, hence the comparative cheapness with which we procure from that country models of interiors made in paper, and coloured to the life. So excellent are some of these designs, especially of animals, that they are used in this country as ornaments rather than playthings.

Nuremberg is the great seat of the metal toy trade, such as leaden soldiers in boxes, locomotives and railroads. Leaden toys, as a rule, are not to the taste of healthy robust lads; indoor games seldom are. There is something derogatory and feminine in sitting round a table setting up toy soldiers. Boys who indulge in such amusements are either weaklings or of an effeminate disposition. It may be said that a love for mechanics would be fast elicited by model steam engines or locomotives; but there is no subterfuge here, and no lad but one with a turn for mechanics would crave after these mechanical toys. It is extraordinary, the completeness to which toys of this description are finished. Only in England would care be taken to complete every detail in the most elaborate beam-engines, locomotives and marine engines. We do not allude to the tin affairs which are mere shams—these are of German production—but the brass specimens we see in the windows of the opticians. There are some establishments in London where the whole process of constructing these elegant toys is taught. The rough castings ready for the lathe and the bench can be purchased separately, and the youth of a mechanical genius taught

TO CONSTRUCT THESE MACHINES;

this is a speciality worthy of note. Perhaps they can scarcely be strictly placed in the category of toys, but we feel certain they afford an amusing training of mind for pursuits in which large numbers of English lads are pretty sure to be thrown. The military toys are all German, they mainly come from Hesse Cassel. It seems strange that these peaceful people should help to feed the warlike spirit of childhood. The French, we should have imagined, would more naturally have turned to this kind of trade, but it is as we have said. The swords and guns, and breast plates we see in the shop windows, all come from the pretty dukedom we have referred to.—*Cassell's Magazine*.

12. USES OF DISCIPLINE.

Beethoven said of Rossini that he had in him the stuff to have made a good musician if he had only been well flogged when a boy; but that he had been spoiled by the facility with which he produced.

When Mendelssohn was about to enter the orchestra at Birmingham, on the first performance of his "Elijah," he said laughingly to one of his friends and critics, "Stick your claws into me. Don't tell me what you like, but what you don't like."

Washington lost far more battles than he gained, but he succeeded in the end. The Romans in their most victorious campaigns almost invariably began with defeats. Wellington's military genius was perfected by encounters with difficulties of apparently the most overwhelming character.—*Dr. Smiles*.

13. FAITH AND PRAYER OF A LITTLE PRINCE.

A thanksgiving hymn was sung at St. Lawrence Jewry, on the recovery of his Royal Highness the Prince of Wales; and the vicar, in his sermon upon the subject, paid a high tribute to the way in which the Prince and Princess bring up their children. The night before the Queen left Windsor to go to Sandringham, when the Prince was most dangerously ill, she told his children that their father was very ill, and perhaps they would not see him again, and bade the elder, Prince Victor, pray to God for his father. The next morning Prince Victor said to the Queen, "Grandmamma, father will not die." I have been to God: and He says father shan't die. Such an instance of faith is indeed worthy of record.—*Church Times*.

14. THE FLOWER MISSION.

The following account of a beautiful charity is taken from an American Juvenile Magazine. We copy it in the hope that it may suggest to our "Young Folks" new means of doing good:—

The Flower Mission of Boston is one of the simplest and sweetest of her charities. This is the fourth season that it has dispensed comfort and blessing to the bed-sides of sickness and the work-rooms of weary toil. As it was the idea of a Boston girl, it seems fitting

that it should be brought to the notice of the girls who read this Magazine. And the boys, too, I am sure, need no less to learn how a little thoughtfulness may contribute to the happiness of many.

Walking along the streets one hot summer day, with a bunch of flowers for a sick friend, this girl noticed, as probably many others would have done, how many of the passers-by turned to look at it; how little children begged for "just one flower please;" and the weary and dusty seemed to brighten a little as it passed. And the thought occurred to her, Why could not the flowers so abundantly lavished upon the country be brought to those who cannot go to them,—to those who by sickness, or poverty, or toil, are confined all the long, hot summer months in the city.

Being not only a thinker, but a doer also, this idea resulted, by the aid of others, in what is known as the Flower Mission of Hollis Street Chapel, so called because of the pleasant room kindly offered for its headquarters, and not because of the patronage of any one church. All denominations delight to aid in its gentle labour of love.

From May until October this room is open every Monday and Thursday morning from eight till twelve, for the reception of flowers; and young ladies are in attendance, to make up and distribute the bouquets. All are free contributions from the fields, the gardens, and the conservatories. First comes a basket of wild flowers, lupines, and columbines, and bright green ferns, and then a large box full of aristocratic tea-roses, and dainty and hybrid heliotropes; then great branches of lilac, and the sweet wild azalea; or, perhaps, rich pansies with their laughing faces, from the "Pansy Man," who has made this contribution a speciality.

Here comes a lady with a basket of nosegays picked early this morning from an old-fashioned garden—bachelor's buttons, and spicy pinks, and feathery grass. Now some boxes of strawberries arrive—not as many as we could wish; but the lady with the list of sick well knows to whom these will be the greatest treat. 'Tis a busy and a pretty scene—the table piled high with its floral offering, and the cheerful tongues keeping time to the flying fingers. As fast as the bouquets are made, they are put in a tank of water, there to await deposit in the baskets, dozens of which hang upon the wall gaping for their fragrant burdens. By noon a hundred or two bouquets are made, and the baskets are filled for the hospital. Carriages are sent to convey them there, where their coming is awaited with eagerness by the suffering inmates.

We who are well, and so surrounded by nature's beauties as to be almost unmindful of them, can scarcely realize how a simple bouquet will brighten the tedious routine of hospital life and suffering. Smaller baskets are also filled, and sent to private persons who are known to the different young ladies. And it is not unlikely you may overhear snatches of low conversation, which show that the gift of flowers is but a cover for other and more substantial bounties.

Indeed, the flower itself is but a trifle compared with the thought and good-will which prompts the offering. And it is this which makes the Flower Mission thrice blessed.

The flowers that are left after these donations are generally sent to the work-rooms of the city. Of course they are utterly inadequate to supply the number of people to whom they would afford pleasure. Three hundred bouquets a day, with two hundred to hospitals, &c., leaves hardly enough to supply a single work-room of many large tailoring establishments. But as far as they go, they give great pleasure. And if the boys and girls in the country could tell how much, more hands would be picking them on evening walks and afternoon holidays, I am sure.

These who distribute the flowers can tell many interesting incidents attendant upon their pleasant task. Oftentimes the flowers are declined at first, the girls thinking they must be paid for; and it does not take a profound mathematician to calculate how much, out of a week's wages of four or five dollars, a girl can spare for the luxury of flowers. But when they understand that they are a free gift from those in the country to those in the city, the pleasure with which they are received and put in some improvised vase, and set upon the sewing machine or on the window seat, where the sight of them may shorten the weary hours, and suggest, in the midst of heat and steam, and stifling air the green woods,—and this, if seen would repay, many times over, the trouble that the gift has cost.

Sometimes they are sent to the city jail and state prison; and wherever they go, they are seen to touch and awaken that which is best in every human being. They are also sent to the city missionaries for distribution in miserable quarters which they strive to purify. And one of them told, with tears in his eyes, how he had seemed to reach, by the simple gift of a flower, hearts which for months he had been trying in vain to touch. Their report tells us that during the working months of 1871 between eleven and twelve thousand bouquets were distributed; and of fruit there were nearly

seven hundred donations besides a special distribution of two thousand pond lilies. Thirty-four towns had the pleasure of contributing to this happy result.

To be generous with flowers brings its own reward; for the more they are cut, the more will the plants bloom, as any gardener will tell you. You can represent the matter in this light to your friends who have gardens; and not be afraid of begging in so good a cause. Then, the woods and fields yield their treasures without a murmur. There are the yellow and flame-coloured field lilies, the gorgeous cardinal flower, the whole tribe of orchis, all of which are formidable rivals to the garden beauties.

If you live in a city that has no flower mission start one of your own. The only capital required is the wish and the will.

Two young ladies of New York, during a visit to Boston, became interested in its Flower Mission, and on their return determined to copy so beautiful a thing. Two or three discouraging mornings, with not a single flower, was the beginning of a mission which now sends out its bouquets by the thousand; and the end is not yet.

If flowers are grateful to the eye of the sick, still more grateful is fresh fruit to their capricious tastes. Would it not be pleasant, in those places where berries abound, to form berry parties, the result of the day's labour to be forwarded in the same manner? I will not mention all the fine plans which suggest themselves for the promotion of this labour of love, leaving some for your own quick wits to invent, but will close with the hope that some hearts may be made lighter, and some sad homes the brighter, by efforts of our girls and boys.—*From Oliver Optic's Magazine.*

15. A YEAR'S BRAIN WORK.

Over thirty-five hundred new books appeared in England last year, besides thirteen hundred new editions—the exact total of both classes being 4,835—and the most notable circumstances in the literary history of the twelve-month was the decrease of novels, from 200 in 1870 to 155 in 1871. Still, lest it might be inferred that the English novelists are falling into disfavour the statisticians are careful to add the explanation that the number of new editions of romances has largely increased during the year—which is a tribute to the older writers. Works on Political Economy are rapidly increasing in numbers—45 last year against 26 in 1870. Theological books are in greater demand than formerly—nearly 800 having appeared last year. Educational books are also in demand—nearly 700 having been published during 1871. The number of American importations into the English book market sensibly diminished last year—the figures being 322 in 1871 against 426 in 1870.

Two countries of Europe present a striking contrast—the comparatively new literary life of Russia being represented in the statistics of 1871 by no less than 1,359 works published in thirty-one different cities of the Empire, while Spain makes a beggarly show, although her civilization and her literature are four centuries old. Spanish writers produced 115 new plays last years, but other contributions to the literature of the country are very inferior to those of Russia, in number as well as in quality. Of the books of the year in Russia, according to Mr. Eugene Schuyler, 153 were on language, 133 on jurisprudence, 118 were historical works, and 242 were novels, poems, and essays. The most remarkable feature of the Russian book returns is the great progress, made by native writers in the production of political works.

In regard to Germany, Robert Zimmerman writes that it is a significant indication of the present state of philosophy, that in place of philosophical systems, biographies of philosophers and of their wives appear. Varnhagen's "Remains" seem to be inexhaustible, fourteen volumes of the "Diaries" having been published, a new work follows under the title of "Biographical Portraits."

16. UNCONSCIOUS BRAIN WORK.

Sir Benjamin Brodie has referred, in his "Psychological Inquiry," to a very remarkable quality of the brain, a quality Dr. Carpenter calls unconscious cerebration. It often happens that after accumulating a number of facts in an inquiry, the mind becomes so confused in contemplating them, that it is incapable of proceeding with its labours of arrangement and elaboration; dismayed at the chaotic heap, it backs, as it were, upon itself, and we feel certain it is no use cudgeling our dull brains any longer. After a little while, however, without having once consciously recurred to the subject, we find to our surprise, that the confusion which involved the question has entirely subsided, and every fact has fallen into its right place. It is possible that the brain can, without our knowledge, select and eliminate, aggregate and segregate facts as subtly as the digestive organs act upon food introduced into the stomach.

Sir Henry Holland is inclined to dissent from such a conclusion,

and leans rather to the explanation of the phenomena which Sir Benjamin Brodie has himself suggested—namely, that the seeming ordering process may be accounted for by supposing that all the unnecessary facts fade from the memory, whilst those which are essential for the ultimate arrangement and classification of the subject under consideration are left clear of the weeds that before encumbered them. But this explanation involves a confession of an eliminative process going on unconsciously in the brain, which appears little less wonderful than a hidden cogitation. Why should the non-essential facts alone fade? We see no reason why we should refuse to recognize masked operations of the mind. Surely we see every day examples of cerebral acts being performed, of which the individual afterwards is totally oblivious.

Let us instance, for example, the mental impression engraved with a searing iron as it were, upon the brain in moments of delirium. Under chloroform, again, the mind is often in a great state of exaltation, and goes through mental labour of a kind calculated, one would imagine, to leave traces behind it on the memory; nevertheless, water does not more readily give up impressions made upon it than does the tablet of the brain under this influence. Even in our dreams, of which we take no notice, but which are patent to by-standers by our speech and action, there must be plenty of "unconscious cerebration." Indeed, Sir Henry Holland, in reference to a vague feeling that all of us have experienced when engaged in any particular act, that "we have gone through it all before," endeavours to explain it by supposing that the faint shadow of a dream has suddenly, and for the first time, come to our recollection in a form so unusual, that it seems as though we had acted the part before in another world. That we go through brain work unconsciously, we have, therefore, no doubt, and we see no reason why we should deny the existence of power seated in the brain, whose duty it is silently to sift the grain from the husk in the immense mass of mental pabulum supplied to it by the senses.—*Edinburgh Review.*

17. THE NUMBER SEVEN.

In all ages and in all countries the number seven has had a peculiar significance. Among the Hebrews it was called the number of perfection. Apuleius speaks of dipping the head seven times in the sea for purification, Pythagoras taught its efficacy, and Cicero in the vision of Scipio calls seven a complete number which is "the connecting principle of almost all things." The learned Prof. Bush, says in his Notes on Genesis, that "the original word for seven, comes from a root, signifying to be full, complete, entirely made up." No other numeral is used so frequently in the Bible, and the septenate structure of many passages is remarkable.

"On the seventh day God ended his work which he had made." The week of seven days was established, the last to be a day of rest, the seventh year was made a year of rest, not only for man and beast, but even for the fallow ground; and at the expiration of seven sabbaths of years, the year of Jubilee allowed liberty and homesteads to all the inhabitants. Enoch was the 7th from Adam, Abraham the 21st, and St. Matthew enumerates forty-two generations from Abraham to Christ.

Noah had 7 days' notice of the flood, during which time he gathered the clean beasts and fowls of the air into the ark by sevens, and in the 7th month the ark rested on Mt. Ararat. He sent out a dove which returned, but after 7 days he again sent forth the dove, which brought back the welcome olive leaf, and after 7 days more he repeated the experiment but lost the dove.

Jacob served 7 years for Rachel, made a mistake in the bride, and served 7 years longer, and when he met Esau he bowed 7 times before him. Pharaoh's dreams of the 7 years of plenty and 7 years of famine were apparently of 7 fat and of 7 lean kine, and of 7 full ears and of 7 suckers. Joseph mourned for his father 7 days, and Zipporah the wife of Moses was the 7th daughter of Jethro. Moses came out of the cloud on Mt. Sinai on the 7th day, and he made 7 lamps of pure gold, and on the 7th day no manna fell. The feast of the tabernacle lasted 7 days, and on various occasions 7 animals of various kinds were to be offered. Jericho was besieged 7 days when 7 priests, with 7 trumpets of rams' horns went 7 times round the city, but on the 7th day they went round 7 times and the walls fell. Solomon's temple was 7 years in building. Job's 7 sons were slain in one day, and Homer relates that Achilles slew the 7 brothers of Andromache in a single day. The dead son of the Shunamite sneezed 7 times and opened his eyes. The servant of Elisha went to the top of Carmel 7 times to see the probabilities of rain.

Naaman the Syrian was told to bathe 7 times in the Jordan, and Nebuchadnezzar went with the cattle grazing 7 years. We also read of 7 golden candlesticks, 7 seals, 7 loaves, 7 baskets full, 7 devils, 7 deacons, a 7 headed beast, 7 angels with the 7 last plagues, and 7 golden vials.

Samson's marriage-feast lasted 7 days, and he told Delilah that 7 green withs would hold him bound, also that she could fasten him to a beam by the 7 locks of his hair. The loss of his 7 locks quite conquered him.

The Seven Churches of Asia were at Ephesus, Smyrna, Pergamos, Thyatira, Sardis, Philadelphia, and Laodicea. The seven Catholic or general epistles are the three of St. John, two of St. Peter and one each of St. James and St. Jude. The Lord's Prayer contains seven petitions, and the Apostles' creed has seven articles relating to the divinity and seven to the humanity of Christ. Christians are enjoined to make 7 additions to their faith, viz:—virtue, knowledge, temperance, patience, godliness, brotherly kindness, and charity. St. John in the Apocalypse often groups 7 names together, as "*Blessing, and glory, and wisdom, and thanksgiving and honour, and power, and might.*" Also "*Worthy is the Lamb that was slain to receive power, and riches, and wisdom, and strength, and honour, and glory, and blessing.*" Solomon says seven things are an abomination to the Lord, viz: pride, lying, murder, jealousy, mischief-making, perjury and slander. It has been maintained that seven evils proceeded from the fall of man, and hence are seven sacraments as remedies, viz: original sin is to be taken away by baptism, mortal sins by penitence, venial sins by extreme unction, ignorance by ordination, weakness of spirit by confirmation, frailty of the flesh by matrimony, and the evil nature by the Eucharist. The seven virtues have been classified as three theological virtues, *faith, hope, and charity*, and the four cardinal virtues, *prudence, justice, fortitude, and temperance*. The Catholic Church teaches seven corporal works of mercy, viz: to feed the hungry, to give drink to the thirsty, to clothe the naked, to visit and ransom captives, to harbour the harbourless, to visit the sick, and to bury the dead. Also seven spiritual works of mercy, viz: to correct the sinner, to instruct the ignorant, to counsel the doubtful, to comfort the sorrowful, to bear wrongs patiently, to forgive all injuries, and to pray for the living and the dead.

The seven deadly sins are pride, covetousness, lust, wrath, gluttony, envy, and sloth, which have the seven opposite virtues of humility, liberality, chastity, meekness, temperance, brotherly-love, and diligence.

In performing the rite of *suttee* the Hindoo widow walks 7 times around the pyre, repeating *mantras* or prayers, scattering rice and sprinkling water on the bystanders. The corpse of the husband is carried round 7 times and placed in the lap of the widow, when the fire is kindled to consume them both.

Aeneas lost all his vessels but 7, he saw 7 stags and killed them, and was afterwards told by the Cumæan Sibyl to sacrifice 7 bullocks and 7 unspotted ewes.

Seven witnesses were sufficient to prove a Roman nuncupative will, and after the Roman kings, farms of *septemjugera* or 7 acres were allotted to each citizen. Cincinnatus, Dentatus, Fabricius, Regulus, &c., found 7 acres enough for their wants.

Seven years' absence of a husband, without intelligence of his whereabouts, justifies the marriage of his wife *à la* Enoch Arden's, without subjecting her to the charge of bigamy; also a child under 7 years of age is supposed to be without discretion. The seven champions of Christendom were St. George of England, St. Denis of France, St. James of Spain, St. Anthony of Italy, St. Andrew of Scotland, St. Patrick of Ireland, and St. David of Wales.

Solon the Athenian law-giver, Chilo the Spartan sage, Thales the philosopher of Miletus, Bias the Prienean, Cleobulus of Lindos, Pittacus of Mitylene, and Periander of Corinth, have for ages been known as the seven wise men of Greece.

Seven ancient wonders of the world are often spoken of, referring to the *pyramids* of Egypt, the *hanging gardens* of Babylon, the *tomb of Mausolus*, the *temple of Diana* at Ephesus, the *colossus* of Rhodes, the *statue of Jupiter* by Phidias, and the *Pharos* of Alexandria. In more recent times the coliseum at Rome, the catacombs at Alexandria, the Chinese wall, the altars of Stonehenge, the leaning tower of Pisa, the porcelain tower at Nankin, and the mosque of St. Sophia at Constantinople have been called the seven wonders of the middle ages. In former times there were reckoned 7 sciences, Grammar, Logic, Rhetoric, Arithmetic, Geometry, Astronomy and Music. The 7 hills of Rome, were the Aventine, Capitoline, Esquiline, Cœlian, Viminal, Quirinal, and Palatine. The 7 Roman kings, were Romulus, Numa Pompilius, Tullus Hostilius, Ancus Martius, Tarquinius Priscus, Servius Tullius, and Tarquinius Superbus. In England 7 kingdoms called Kent, Northumberland, East Anglia, Mercia, Essex, Sussex, and Wessex constituted the Saxon Heptarchy, before the time of Egbert.

The seventh son, and especially the seventh son of a seventh son has long been popularly supposed to be endowed with wonderful powers of healing diseases by the touch, particularly on Good Friday. In France the seventh son without an intervening daughter

is called a *Marcou*, and sometimes in Holy Week a genuine *Marcou* will have hundreds of patients to touch.

There is a curious eastern legend of 7 sleepers who slept in a cave 187 years, a tale that perhaps suggested Rip Van Winkle, and to this day many Mahometans believe the names of the sleepers and their dog, posted on their doors will keep away ghosts and demons.

There are several curious coincidences of the occurrence of the number 7 in nature. Seven eclipses is the greatest number possible in a year, and 70 in 18 years. There are seven bones in the neck of all mammals, there are 7 true ribs on a side, and 7 bones in the tarsus. The great ocean currents are 7 in number, and meteorologists describe 7 forms of clouds. There are seven symmetrical forms of crystals, 7 kinds of attraction described by philosophers, and 7 general properties of matter.

The 7 notes of the musical scale and the 7 tints of the rainbow, suggest the idea of completeness. So also do the 7 recognized attributes of Deity, viz:—Wisdom, knowledge, goodness, power, justice, mercy and truth, and the 7 relations of the Creator to man, viz:—Creator, Lawgiver, Benefactor, King, Judge, Saviour and Father.

Ruskin has charmed the world by his pleiad-like grouping of the 7 Lamps of Architecture, and artists have told us that the foot of the renowned statue of Venus de Medecis is one seventh the length of the statue.

The Buddhists who embrace over 150 millions of the human race, believe in 7 gods who rule the 7 days of the week. They say *Hiru* rules Sunday, *Kandu* Monday, *Angaharu* Tuesday, *Budahu* Wednesday, *Braspati* Thursday, *Sicura* Friday, and *Henaharu* Saturday.

Chaucer devotes a verse of the Canterbury Tales, to a description of the seven metals of the alchemists.

"Sol gold is, and Luna silver threpe;
Mars yren, Mercurie quyksilver we clepe;
Saturnus leed, and Jubiter is tyn.
And Venus cooper, by my fader kyn."

The old column of the 7 dials in London, faced 7 streets, radiating therefrom.

The partial constellation of the 7 stars has given the word *Septentrional*, to be seen in the treasury seal on every "greenback."

Much interest has been taken by antiquarians to find the site of the "7 cities of Cibola," and the wonderful expedition of Coronado to find those Aztec or ante-Aztec wonders has recently been discussed in the publications of the Smithsonian Institution.

I will only remind the reader, that he is himself supposed to grow by *sevens*. At the age of 7 months the first teeth appear, to fall out in 7 years and give place to others; and that every 7 years appears to form a distinct week or period of his existence.

As Shakespeare has it, the players on the world's stage, have for their acts "seven ages," or as some seven-struck poet writes

The first seven years of life—man's break of day—
Gleams of short sense, a dawn of thought display;
When fourteen springs have bloomed his downy cheek,
His soft and bashful meanings learn to speak.

From twenty-one proud manhood takes its date,
Yet is not strength complete till twenty-eight;
Thence to his five-and-thirtieth, life's gay fire
Sparkles and burns intense in fierce desire.

At forty-two his eyes grave wisdom wear,
And the dark future dims him o'er with care;
With forty-nine behold his toils increase,
And busy hopes and fears disturb his peace.

At fifty-six cool reason reigns entire;
Then life burns steady, and with temperate fire;
But sixty-three unbends the body's strength,
Ere the unwearied mind has run her length;
And when, at seventy, age looks her last,
Tir'd she stops short, and wishes all were past.—Prof. N. B.

Webster.—Monthly Visitor.

18. PREPARING SKELETON LEAVES.

A correspondent of *Science Gossip*, after referring to the tediousness of the ordinary way of preparing skeleton leaves, which is enough almost to tax the patience of Job, and which most experimenters give up in despair before getting through with it, describes a new method, which is easy, cleanly, and takes but little time. It is as follows:

"First dissolve four ounces of common washing soda in a quart of boiling water, then add two ounces of slacked quicklime, and boil for about 15 minutes. Allow this solution to cool; afterwards pour off all the clear liquor into a clean saucepan. When the solution is at boiling point, place the leaves carefully in the pan, and boil

the whole together for an hour. Boiling water ought to be added occasionally, but sufficient only to replace that lost by evaporation. The epidermis and parenchyma of some leaves will more readily separate than others. A good test is to try the leaves after they have been gently boiling for about an hour, and if the cellular matter does not easily rub off betwixt the finger and thumb beneath cold water, boil them again for a short time. When the fleshy matter is found to be sufficiently softened, rub them separately but very gently beneath cold water until the perfect skeleton is exposed. The skeletons at first are of a dirty white colour; to make them of a pure white, and, therefore, more beautiful, all that is necessary is to bleach them in a weak solution of chloride of lime. I have found the best solution is a large teaspoonful of chloride of lime to a quart of water; if a few drops of vinegar are added to the bleaching solution, it is all the better, for then the free chlorine is liberated. Do not allow them to remain too long in the bleaching liquor, or they will become too brittle, and cannot afterwards be handled without injury. About fifteen minutes is sufficient to make them white and clean-looking. Dry the specimens in white blotting-paper, beneath a gentle pressure, after they are bleached.

"Simple leaves are the best for young beginners to experiment upon; the vine, poplar, beech, and ivy leaves make excellent skeletons. Care must be exercised in the selection of leaves, as well as the period of the year and the state of the atmosphere when the specimens are collected, otherwise failure will be the result. The best months to gather the specimens are July and August. Never collect specimens in damp weather; and none but perfectly matured leaves ought to be selected."

19. THE LEAVES OF AUTUMN.

AUTUMNAL tints of leaves are attributed to various causes. Some chemists determine that it is due to certain acids which are developed. Others aver that a diminished vitality in the plant causes the change of colour; if this be true then we must assume that there is such a thing as a "vital power" in plants which presides over their cyclical changes, and this cannot but be accepted as true as far as our present knowledge goes. One phenomenon, however, must not be lost sight of, in seeking the cause of tinted leaves. Wherever one leaf overlaps another in the forest the under leaf will longest resist discolouration. The very form of the upper leaf may thus be stamped on the one beneath when the covering is only partial. This indicates that frost is a very important agency in the problem.

20. DISCOVERY OF COFFEE.

Toward the middle of the fifteenth century, a poor Arab was travelling through Abyssinia, and finding himself weak and weary, from fatigue, he stopped near a grove. Being in want of fuel to cook his rice, he cut down a tree which happened to be covered with dried berries. His meal being cooked and eaten, the traveller discovered that the half-burned berries were fragrant. He collected a number of these, and, on crushing them with a stone, he found that their aroma increased to a great extent. While wondering at this, he accidentally let fall the substance into a can which contained his scanty supply of water. Lo, what a miracle! the almost putrid liquid was instantly purified. He brought it to his lips: it was fresh, agreeable, and, in a moment after, the traveller had so far recovered his strength and energy as to be able to resume his journey. The lucky Arab gathered as many berries as he could, and having arrived at Aden, in Arabia, he informed the mufti of his discovery. That worthy divine was an inveterate opium smoker, who had been suffering for years from the influence of the poisonous drug. He tried an infusion of the roasted berries, and was so delighted at the recovery of his former vigour, that he called it *cahuah*, which in Arabic signifies force. Thus coffee was discovered.

VI. Educational Intelligence.

—In Japan there are 826 schools, attended by 68,000 pupils.

—Corporeal punishment is not allowed in the schools of Chili.

—The total number of children in California is stated to be 130,116, of whom 99,152 attend school.

—There recently graduated at Howard University, in Washington, thirteen negro law students, one of whom was a woman.

—The phonetic system of reading has been introduced into one of the schools of Burlington, Iowa, and received with marked approval.

—There are eight thousand female teachers in Massachusetts. The whole number of teachers employed in the State is ten thousand.

—Indiana, according to the United States School Commissioner's Report, has 127,015 persons over ten years of age who cannot write their own names.

—During 1869 there were in operation in Portugal, and on the adjacent islands, 1997 schools for boys, and 362 for girls, attended by about 135,000 pupils.

—In Connecticut, according to the report of the Board of Education for 1871, there are fewer adult persons unable to read and write than in any other State in the Union.

—An empty treasury has necessitated the closing of all the schools in South Carolina under the patronage of this State, except in counties having on hand local school funds. The select schools of the State are in quite a flourishing condition.

—The Germans have established no university for the last half-century. Their plan is to strengthen those they have, rather than to found new ones.

—The President of Columbia College receives \$8,000 a year, the professors \$6,000 each. These salaries are the largest paid by any college in the country. The property owned by this institution amounts to \$3,500,000, and yields an income of nearly \$200,000.

—As a proof that education is, even in Russia, on the way to progress, statistics have been forwarded us showing that in the Province of Moscow at least one child in ten now enjoys the benefits of an elementary education. It should be remembered that the proportion in highly educated countries is one in six.

—Mr. Mori, the Japanese minister at Washington, has decided to have the five Japanese girls, placed under his charge, educated by the Kindergarten system, and will place them under the supervision of Miss Loring, of Boston. Already there are four Japanese cadets at the Annapolis Naval Academy.

—Father Secchi communicates to *Les Mondes* the particulars of a violent solar explosion on the evening of the 7th of July. The internal movements of the incandescent vapours were so intense that the luminous clouds were seen to change form rapidly, their height being six times greater than the earth's diameter. The eruption continued about two hours. On the same date an aurora borealis was seen at Madrid and many other parts of Europe, and the magnetic perturbations were very violent at all the observatories.

—Brain-work costs more food than hand-work. According to careful estimates and analyses of the excretions, three hours of hard study wear out the body more than a whole day of severe physical labour. Another evidence of the cost of brain-work is obtained from the fact that, though the brain is only one-fortieth the weight of the body, it receives about one-fifth of all the blood sent by the heart into the system. Brain-workers therefore require a more liberal supply of food, and richer food, than manual labourers.

—A Vienna contemporary speaks of an encouraging phenomenon in the promotion of practical education. The Society of Stenography in Austria has opened a competition in shorthand-writing to the pupils of the middle-class schools in Vienna. It appears from this and many other matters that in Austria as well as in the German empire time is looked upon as money. In Belgium also the practice of shorthand writing has of late been strongly recommended as a useful branch to be added to the curriculum of scholastic instruction.

—According to the census of 1870, the total number of schools in the United States was 141,629; the number of teachers, 221,402, of whom 93,329 were males, and 127,713 females. The total number of pupils was 7,209,938, 3,621,996 being male, and 3,587,942 female. The total income of all the schools was \$95,404,726, of which \$3,663,785 came from endowments, \$61,746,039 from taxation, and \$29,992,902 from all other sources, including tuition. The total income reported is nearly three times that for 1860, and nearly six times that for 1850. It is considered quite impossible that there should have been any such increase; and the apparent augmentation is, without doubt, referable to

a failure on the part of the former census officials to secure complete returns. Of the total number of schools reported, the public schools were 125,059; classical, professional, and technical, 2,545; and others, 14,025. The total number of teachers in the public schools was 183,198; and in the classical, professional, and technical, 12,767. The number of pupils in the latter class was 245,190, and in the public schools, 6,228,069.

PRESCOTT AND RUSSELL TEACHERS ASSOCIATION.—The first regular convention of the Teachers of the U. C., of Prescott and Russell, was held in the High School Room in L'Original on Wednesday the 17th. inst. at 5 p.m., Rev. T. Garrett, J. P.S. in the chair, Rev. F. F. McNab, secretary. The convention proceeded forthwith to organize a "Teachers' Association," for the U. C. of P. and R., and elected the following gentlemen and ladies as office bearers for the ensuing year, namely: Rev. F. F. McNab, Principal, L'Original, H.S., President, Mr. A. Agnew, P.H.S., Vankleekhill, Mr. Dorland, P.H.S., Cumberland, and the principals of any other high schools that may be organized during the year in the counties; Vice Presidents; W. J. Summerby, secretary; Rev. A. Brunet, Treasurer, and R. Lee, Librarian; Messrs. Ross, Hay, Derby, and LeFrancois; and Misses Emma Cook, Annie Armstrong, and Agnes Harvey, to be an executive committee. Subsequently the convention was favoured with an address from the president, (Rev. F. F. McNab,) then followed an essay, by Mr. Ross, on "The best method of teaching arithmetic," by Mr. Lee, on "School Teaching," and one by Mr. Summerby, entitled "Practical hints," to teachers on the various kinds of Education and the means of imparting knowledge—organization and discipline in schools, power of Teacher's example, &c. The essays, which were pleasantly criticised by the Inspectors and others, and translated into French by Rev. A. Brunet, were most appropriate and instructive, and seemed to please the large audience assembled on the occasion. An address was also delivered by T. O. Steele, J. P.S.; after which an essay on "History," was read by Miss Hyde, who was received with great applause as the pioneer of the Lady Teachers. Then followed a recitation in good style by Mr. Lee; an address by the Rev. Thomas Garrett, J. P.S., and the closing address of the President, after which "God save the Queen" was sung, and the assembly dispersed, highly delighted with the evening's entertainment. The association has opened under promising auspices, and I trust that every Teacher in the United Counties, and also every other friend of Educational improvement, will at once put his or her shoulder to the wheel, and urge on the good cause. The next convention of the association will be held during the time of the Teachers' examination, and I trust that there will be a very large attendance of the Teachers of the United Counties.—*Communicated, T O. S.*

VII. Departmental Notices.

PUBLIC SCHOOL TEACHERS' COUNTY EXAMINATIONS.

In accordance with a general wish as expressed last year and concurred in by the Council of Public Instruction, an examination of Candidates for Public School Teachers' SECOND and THIRD-CLASS CERTIFICATES will be held (D.V.) in each county town of Ontario, commencing on MONDAY, 16th DECEMBER, at 2 P.M.

The examination of Candidates for FIRST-CLASS CERTIFICATES will be held at the same place, commencing on THURSDAY, 26th DECEMBER, at 9 A.M.

Candidates must notify the County or City Inspector (as the case may be) NOT LATER THAN THE 20th OF NOVEMBER, of their intention to present themselves for examination; and the Inspector will inform the Department NOT LATER THAN THE 25th OF NOVEMBER, of the number of Candidates for admission, as the Examination Papers cannot be printed until this information shall have been received from every one of the Inspectors. An omission of one Inspector in this matter, beyond the time specified, may delay the printing and despatch to the Inspectors, of the Examination Papers.

The Examination Papers will be sent to the presiding Public School Inspector (who will be responsible for the conduct of

each examination according to the regulations). The presiding Inspector will, immediately after the meeting of the Board of Examiners, at the close of the examinations, and not later than the 10th of January, transmit to the Department the report of the Board of Examiners, and also the whole of the answers of the candidates. The surplus Examination Papers are also to be returned for binding.

The Normal School Students will be examined in their respective counties, with the other candidates.

TIME OF HOLDING TEACHERS' EXAMINATIONS.

In reply to questions as to the time of holding the Teachers' County Examinations, we desire to say that they will be held this year about the same time as they were last year. In 1870 they were held in January, but as this time was found to be inconvenient, it was changed in deference to the wishes of the Provincial Association of Teachers, which adopted a resolution to that effect last year, on motion of the Inspector of Kent. The request was a respectful one, and was complied with by the Department with pleasure. The Inspector of Durham, in referring to the change, says: it "was a wise one; as, by the change, schools were enabled to get into working order at the proper time, and rejected candidates could be advised of their failure in time to enter the Normal School if they wished to do so."

TEACHERS' ABSENCE AT EXAMINATIONS.

Several Teachers are asked, whether in attending the County Examinations they shall receive their salaries as usual, and that the time lost by them shall be made good to them by the Trustees and schools in which they teach. We reply, that all attendance at examination is a private matter with the teacher, and is for his own personal advantage and advancement in his profession. The lawyer, physician, and other professional men, have to go to the expense, trouble and loss of time to acquire proficiency in his profession; and even many young men teaching schools, with a praiseworthy ambition, leave for a time to attend university examinations, who never ask, as a right, that the Trustees and schools shall bear the pecuniary loss entailed by their absence. Besides, many teachers come to the schools fully qualified (at their own expense) for the discharge of their important duties. Of course, if the Trustees, to show their appreciation of the labours of the teacher or to mark the esteem in which they are held, choose to allow the teacher his full time when absent, they have full power and should be encouraged to do so; but in no case can teachers demand as a right what can only be regarded in the light of a personal favour.

NOTICE TO CANDIDATES FOR CERTIFICATES, RESPECTING THE EXAMINATION IN THE SUBJECT OF NATURAL PHILOSOPHY.

Candidates, for *second class certificates*, will be examined in statics, hydrostatics and pneumatics. They are referred to "Peck's Ganot," but it is recommended that on the subject of *statics*, that part of "Tomlinson's Rudimentary Mechanics," which relates to the mechanical powers, be also consulted.

As the examination will be on the subject generally, those who have already provided themselves with Dr. Sangster's work, will find the necessary information in it.

Candidates, for *first class certificates*, will be examined in statics, dynamics, pneumatics, hydrostatics and hydrodynamics. They are recommended to consult, besides "Tomlinson's Rudimentary Mechanics," the "Manual of Mechanics," by Rev. Samuel Houghton, M.D.

NOTE.—The highest standard in all subjects will be maintained for first class certificates.

Candidates are strongly advised to procure copies of the examination papers used at previous examinations, as they will be of material assistance in indicating the kind of examination they will be required to undergo. Bound copies may be procured at the Depository at 60 cents per set, free of postage, or 50 cents exclusive of first class papers.

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EDUCATIONAL FEATURES OF THE GOVERNOR-GENERAL'S VISIT.

Among the most pleasurable incidents connected with public and social life in Ontario, none has equalled that of the recent auspicious visit of His Excellency the Governor General to its capital. The Earl of Dufferin, as the Representative of the Sovereign, has indeed even more than realized the ideal among all classes of Canadian people of what that Representative should be, not only in the execution of his civil duties thus far, but also in the discharge of the popular and social functions of his high office. These features of His Excellency's duties are confessedly among the most delicate and difficult which he can be called upon to discharge. And yet, by common consent, it was felt that he has not only performed them during his recent visit to Toronto with rare tact and discretion, but that he has succeeded in infusing into them a heartiness (or, as the Americans would say, a graceful "naturalness") which was most pleasant and winning. In doing so it was also felt that, apart from the Governor-General's own *bonhomie* and good sense, there was imparted to the whole of His Excellency's movements and utterances an irresistible grace and charm by the presence and participation in them of the Countess of Dufferin. Gifted evidently with great amiability of disposition, Her Excellency blended with it a graciousness of manner which won all hearts, and which gave to Lord Dufferin's official visits somewhat of that pleasant impressiveness which the condescension of a personal visit of the Sovereign would produce.

Thus much of the personal and social aspects of His Excellency's visits. These, after all, may be considered as the most pleasant and lasting in their effects; but yet there is another and higher aspect of them in which we should like to view them.

There are many who remember with unmingled satisfaction the zeal and ability with which the late lamented Lord Elgin identified himself with the benevolent and educational enterprises of the Province in his day, and sought, both by his presence and eloquent advocacy of their interests, to promote their growth and development among us. For many years after his retirement from Canada, the moral and social effects of his popular advocacy of these great interests were felt. And to his oft-repeated reference to the progress of our educational system, in his many speeches and addresses in England and Scotland, are we to this day, to a great extent, indebted for its popularity abroad. He brought the subject prominently before the English and general public, and thus awakened an interest in it,—as an experiment in colonial government and education,—which leading statesmen in England have since shown in their desire to learn something more definitely of by personal inquiry or through royal commissions.

Lord Dufferin has happily sought to render a like service to the Province, and in doing so to give the full weight of his personal opinion and experience in this matter. He has not been content (as he himself expressed it,) to accept for an acquaintance with our system of education, mere popular report, or even the official reports of others, but he has endeavoured by personal inquiry and investigation to make himself acquainted with its leading principles, and so to master its details, as to be enabled to learn its quality and to estimate its value to the country. Not only has he obtained and examined the official reports on Education in Ontario, but, as an instance of his desire not simply to content himself with a mere formal visit, (as was customary with others of his predecessors,) to the leading educational institutions in the city, we may mention that he paid at least two visits each to the University of Toronto and to the Education Department, in the latter of which he spent nearly two hours on his first visit, and three on his second. Not only did he inspect with interest the various departments of these institutions; but he asked such practical questions in regard to what was shown him, and sought such illustrations of the practical utility of what he saw, that he was able in his own mind to form an opinion of their value, or to judge of their adaptation to the ends sought to be attained. In doing this, His Excellency showed a tact and discrimination which was remarkable, and yet a courtesy as well as deference to those he addressed, which (as coming from the Queen's Representative, and also the highest civil officer in the Dominion,) was most pleasing and graceful.

In all this the Governor-General has shown the rare sagacity

and keen practical wisdom of a statesman and ruler. Not content merely to hold the reigns of power with even justice, and to preside with impartial dignity over the interests of the Dominion, or to live in semi-official and elegant seclusion among the people whose affairs he has been appointed to administer, he has at once applied himself to the important, and, to him, most pleasing duty of acquainting himself practically with those affairs and interests. He has sought to obtain his information in regard to important branches of social science in this new country, direct, and from the most reliable sources. By personal inquiry and an inspection of the material evidences of the agricultural, mechanical, industrial and educational progress, and Christian benevolent enterprise, which were presented to him, the Governor-General has endeavoured to obtain that practical information which will enable him to form a clear and definite judgment on the condition of the Province, an opinion on the practical character of its institutions—and an estimate of the number and efficacy of those great instruments of national progress and enlightenment, which the wisdom of Parliament, the sagacity of our statesmen, and the Christian philanthropy of our people, have put into operation.

Of the opinion which His Excellency has formed of our educational system and institutions he has been pleased to give utterance on several occasions. Of these, however, we will only select two—one in regard to his estimate of our system of popular education, and the other in regard to the educational institutions of Toronto. On the occasion of his visit to the Education Department of Ontario, and in the course of his remarks to the students of the Normal School, he said:—

"I had felt some anxiety and interest to become acquainted with what I had understood to be one of the best systems of education in the world, and I must now express my complete satisfaction with what I have witnessed."

On leaving the Education Department, Lord Dufferin also

"Expressed the great pleasure he had experienced in the inspection of the establishment, which, he said, was equalled by few of its kind in Europe, and remarked, that its founders had built themselves a lasting monument."

In regard to the educational institutions of Toronto, His Excellency, on leaving Toronto, directed Col. Fletcher, his Secretary, to address a formal letter of acknowledgment to His Worship the Mayor of the city. In that letter Col. Fletcher says:—

"Although the Governor-General's stay has been far shorter than he could have wished, His Excellency has had an opportunity of visiting some of the principal institutions of the town, and he cannot adequately describe the satisfaction he has experienced in observing the admirable footing upon which they are established. Those devoted to educational purposes have especially attracted his attention, as being equal, if not superior, to any with which he is acquainted."

Apart from the zest and novelty of such a visit and inquiry in a new country (which are, no doubt, congenial to Lord Dufferin's tastes), we think we have indicated some at least of the motives which have induced His Excellency (as did Lord Elgin) to devote so much care and attention to acquire the valuable information which he has obtained in his visits to the western parts of this Province.

There are also abundant evidences in Lord Dufferin's impromptu and yet studied utterances, that he has not undertaken his important duties without, at least, an extensive preliminary study of

our past history, and a tolerably correct estimate of the resources and capabilities of the Provinces in the Dominion. Did our space permit, we would gladly make many extracts from those speeches, but the nature of this periodical compels us to restrict ourselves to a record of His Excellency's visits to the educational institutions. This, from the great interest of the subject, we have made as full as possible; and, in doing so, we have availed ourselves of the admirable reports of those visits published in the *Globe*, *Mail* and *Leader* newspapers.

1. VISIT TO THE EDUCATION DEPARTMENT FOR ONTARIO.

LORD DUFFERIN ON CANADIAN EDUCATION.

Their Excellencies the Governor-General and the Countess of Dufferin, accompanied by Col. Fletcher, visited the Education Department on the 16th inst. The vice-regal party was received at the principal entrance by the Chief Superintendent of Education, Rev. Dr. Ryerson; the Deputy Superintendent, Dr. Hodgins; Very Rev. Dean Grasett, Chairman; and the following additional members of the Council of Public Instruction:—The Most Rev. the Archbishop of Toronto, Rev. Dr. McCaul, Rev. Dr. Jennings, Hon. William McMaster. The following gentlemen were also in attendance and were presented to their Excellencies in the vestibule:—The Hon. Attorney-General Crooks, the Right Reverend the Bishop of London, the Very Reverend Vicar-General Jamot, the Rev. Mr. Crinan, of Stratford, and the Rev. Dr. Davies, Principal of the Normal School. Their Excellencies were then conducted into the Theatre, in the body of which the children of the Model School were assembled, the pupils of the Normal School occupying the gallery. Over the entrance to the Theatre were the words "God save the Queen," enclosed in a border of coloured maple leaves, the work of Dr. May, Chief of the Depository Department, aided by some young ladies from the Model School. On the front of the gallery, facing the stage, was the Governor-General's motto "*Per vias rectas*," in green maple leaves. Over this was the word "Welcome," in autumn maple leaves, and surmounting all was the crown in flowers. The decorations inside the Theatre were the work of the young ladies of the Normal School, under the direction of William Armstrong, Esq., C.E., Drawing Master.

On the entrance of the Governor-General, all the pupils rose and, led by Mr. Sefton, sang the National Anthem, which, in common with the subsequent selections, was performed in a manner which did great credit to the ability of the teacher of music, and to the aptitude of the scholars. The Chief Superintendent, Deputy Superintendent, and members of the Council then descended to the foot of the dais, and the Dean of Toronto read the following address:—

"To his Excellency the Right Honourable the Earl of Dufferin, K. P., K.C.B., Governor-General of Canada, &c. &c. &c.

"*May it please your Excellency;*

"The Council of Public Instruction for the Province of Ontario, in unison with all classes of our fellow subjects, most cordially welcome you and the Countess of Dufferin to the country first selected as a home by the United Empire Loyalists of America, and to this seat of our educational operations. We welcome your Excellency not only as the honoured representative of our beloved Sovereign, as an experienced statesman and accomplished scholar, but as a known and earnest labourer in the cause of national education.

"To us as a body, since 1846, has been assigned the task of establishing the Normal and Model Schools for the training of teachers, framing the regulations for the management of the Public and High Schools, selecting the text books and books for prizes, and free libraries, while one of our number has been appointed to prepare and administer the school law and regulations. It has been our aim to devise and develop a system of sound universal education on Christian principles, imbued with a spirit of affectionate loyalty to the Throne and attachment to the unity of the Empire. In this great work we have been favoured with the protection and support of successive Administrations and Parliaments, without respect to party, and with the friendly co-operation of all religious persuasions. The schools under the Education Department have increased to the number of 4,703, and the pupils in them to the number of 454,616; the school accommodations, character and qualifications of teachers, the methods and efficiency of teaching, have advanced in proportion to the increase of schools and pupils, and the amount provided last year for the support of the schools, almost

entirely by voluntary local rates, was \$2,326,806, being an increase on that of the preceding year of \$210,604.

"We trust and devoutly pray that your residence in Canada may be agreeable both to your Excellency and Lady Dufferin, and that your administration of the Government will be beneficial to all classes and sections of the Dominion.

"Signed by order and on behalf of the Council of Public Instruction for Ontario.

"H. J. GRASETT,
Chairman."

16th October, 1872.

His Excellency replied verbally, as follows:—Gentlemen,—In the first place I must express to you my very great regret that I have not been as punctual in meeting you here as I could have wished, but unfortunately we missed our way, and have been consequently delayed. The address with which you have been good enough to present me contains not only most kind expressions of welcome to myself and Lady Dufferin, on our arrival in this locality, but it also resumes in a few pregnant sentences the general nature of your labours, and the satisfactory results which have flowed from them. In the first place, therefore, I have to thank you, both on Lady Dufferin's part and on my own, for those kind expressions with which you have greeted us. I can assure you that it is indeed a very great satisfaction to us to feel that, in coming to this place, we have been welcomed by those who represent one of the most useful and one of the most successful institutions in Toronto. On the other hand I have to congratulate you upon those references which you have been able to make with justifiable pride to the fruit of your endeavours. I can well understand that, to those who have watched the gradual growth and extension of such an establishment as this, it must be delightful to reflect that from hence there have been year by year poured forth in every direction, and to every distant part of the province, pupils who in their turn have become teachers in their several departments, and have spread abroad that sound education and well-directed system of instruction which they have acquired within your walls. I am well aware that, until a very recent period, your efforts have been a good deal hindered by the want of proper class-books. That defect, thanks to the efforts, I understand, of one of your members, has been amply supplied, and I believe that the class-books of Toronto are now equal to any which can be found in any part of the world. I am also happy to think that I see before me a gentleman through whose strenuous efforts here and energetic exertions in visiting the various countries of Europe, as well as examining the different systems which have been pursued on the continent of America, a method of instruction has been introduced into Canada which probably resumes in itself all that is good in the various systems to be found elsewhere. But to myself especially, who, in Ireland, have been accustomed to live in the midst of religious contention, and where education is itself the battle-field upon which the conflicting denominations encounter each other with the greatest acrimony, it is the greatest pleasure to have met here to-day the distinguished representatives of so many different religious communions, and I must say it speaks very favourably for the liberality of sentiment and for the general enlightenment of the ecclesiastical bodies in this country that this should be the case. In this respect also, gentlemen, you have my hearty sympathy. It has always seemed to me a disgraceful thing that, in the great contention which we are waging with ignorance, and consequently with crime, the various religious denominations of Europe should not have yet learnt to put aside their jealousies and combine in so catholic a cause. I can only say, in addition to the few observations with which I have ventured to trouble you, that since my arrival in Canada I do not think I have ever found myself in a building which seems to combine in so favourable a degree all the necessary mechanical appliances for the dissemination of knowledge; nor, indeed, to judge by the intelligent and smiling faces of the numerous pupils before me, have I ever seen more promising materials on which, indeed, gentlemen, it must be a satisfaction to you to expend your energies and time. Again thanking you for the kind reception you have been good enough to give to Lady Dufferin and myself, I would conclude by wishing you, from the very bottom of my heart, the utmost success and prosperity in the time to come, and I trust that each succeeding year may enable you to extend the sphere of your beneficent labours.

His Excellency's remarks were greeted at their conclusion with loud applause.

The Model School pupils then sang "Hurrah for Canada." This was followed by Moore's "The Last Rose of Summer," sung by the pupils of the Normal School in the gallery; after which the juniors sang another piece the one selected this time being "The Sea is England's Glory." His Excellency expressed the pleasure which the performance had afforded him.—The Rev. Dr. Davies called for three "right loyal" cheers for the Queen, which were

given with enthusiasm, that did not flag in the three cheers for the Earl and Countess of Dufferin which followed.

His Excellency then requested the authorities of the school to be good enough to give a holiday to all its pupils of both sexes, which was given, and also at his request to the employés of the Education Department. (Loud applause.)

The following officials of the department were then presented to their Excellencies by the Rev. Dr. Ryerson, Chief Superintendent:—Messrs. Alexander Marling, F. J. Taylor, J. T. R. Stinson, W. H. Atkinson, and W. E. Hodgins; the following of the Depository section were presented—Dr. S. P. May, Messrs. H. M. Wilkinson, E. B. Cope, G. Barber, S. A. May, R. J. Bryce, R. Winstanley, F. Nudell, A. C. Paull and A. Ditchburn.

The following teachers of the school were also presented:—Mr. Kirkland, M. A., Science Master, and Dr. Carlyle, Mathematical Master, Normal School; Messrs. Hughes, Scott and McPhedrein, Boys' Model School; Mrs. Cullin, Miss Jones, Miss Adams, and Miss Carter, Girls' Model School.

Lord Dufferin then walked round among the pupils, to several of whom he addressed pleasant remarks. He was highly gratified with the intelligence shown by the children generally, and, with the Countess of Dufferin, also entered into pleasant conversation with the ladies who were present.

The pupils of the several schools then left the Theatre, and after a short interval their Excellencies were conducted to the lawn in front of the west wing of the building, where the pupils of the first and second divisions of the girls' Model School were assembled. Under the direction of the veteran Major Goodwin, these young ladies went through a calisthenic exercise of a character somewhat trying to unpractised muscles. They proved themselves, however, quite *au fait*, and displayed wonderful ease and grace in the posturing which the nature of the exercise necessitated. They then formed in two ranks, and went through a portion of the ordinary company drill, wheeling, marching in line, doubling, and executing other movements, with the precision of a trained company of volunteers. They finished as they commenced, by a "retiring salute," a graceful movement, which elicited a bow from His Excellency, and a deep courtesy from the Countess. Lord Dufferin complimented Major Goodwin on the excellent training of his squad, thanked the young ladies for their trouble, and said they would be quite a formidable troop to meet, and he should not like to charge them.

The viceregal party then proceeded to an inspection of the interior of the building. They were first conducted to the Council-room and Library, where the minute book of the Council was produced, and the signatures of the Prince of Wales, Prince Arthur, the Grand Duke Alexis, and other distinguished visitors pointed out by Dr. Ryerson, at whose request both Lord and Lady Dufferin added their autographs. Dr. Hodgins produced some prize plaques prepared for School Houses and plans of rural school sections, and explained the arrangements in such cases to His Excellency. The Governor-General and Lady Dufferin were then shown the Depository packing room, stored with books ready for transportation to schools requiring them. Conspicuous among the books lying on the counter were, by a coincidence, several copies of "Letters from High Latitudes." From this room the distinguished visitors proceeded to the map and apparatus Depository, and thence up stairs to the Museum. Lord Dufferin examined with much interest some of the paintings on the staircase, and then entered the Assyrian Room. Here great changes have recently been made. The arrangement of the whole museum has been vastly improved by Dr. May and his associates, under the supervision of Dr. Hodgins, and the Assyrian frescoes and the copy of the winged bull of the British Museum have been brought into greater relief, and had imparted to them a lieliness which at once strikes the eye of the visitor, by being bronzed and coloured in appropriate tints. Their Excellencies remained in this room a considerable time, examining all the objects in it with full appreciation of their excellence, and the Governor-General expressed his especial admiration of the happy thought of colouring the frescoes—an experiment on the part of the department which had been ably wrought out. The vice-regal party then passed in succession through the rooms containing English engravings and photographs (among the first of the latter which caught Lord Dufferin's eye being some of his own relatives); that in which copies of the Dutch and Flemish masters were hung; the chamber devoted to paintings of Italian origin, and that containing illustrations of Canadian history alone. They next visited the room in which philosophical apparatus of every kind was exhibited; thence they passed to the hall devoted to sculpture and casts, and then returned to the ground floor. They were conducted through the saleroom and the offices of the department, and took their departure, having passed nearly two hours in the institution. During his visit His Excellency made numerous inquiries in regard to various features of the school system of Ontario, of which he said he had heard so much. These

were answered to his satisfaction, and evidently increased his interest in the success of the system.

Before leaving, the Earl of Dufferin expressed the great pleasure he had experienced in the inspection of an institution equalled by few of its kind in Europe, and remarked that its founders had built themselves a lasting monument. The distinguished party drove away amid hearty cheers from those assembled.

2. THE GOVERNOR-GENERAL'S INSPECTION OF THE NORMAL AND MODEL SCHOOLS.

When His Excellency the Governor-General paid his formal visit to the Normal School and Educational Museum, on the 16th inst., his time was so fully occupied in receiving and replying to addresses, and in examining the interesting collection to be found in the Museum, that Lord Dufferin found it impracticable to remain long enough to inspect the schools, and he then declared the pleasure it would give him to take an opportunity, before leaving Toronto, of making himself acquainted with the working of the Normal and Model schools of Ontario. In accordance with this intimation, the 22nd inst. was selected as the occasion when he would carry his intention into practice.

His Excellency arrived at the Institution at eleven o'clock, attended by Lieut. Coulson, A.D.C., Lady Dufferin was prevented by a slight indisposition from accompanying him. The Governor-General was received by the Rev. Dr. Ryerson, Chief Superintendent of Education, Dr. Hodgins, Deputy Superintendent, Rev. Dr. Davies, Principal of the Normal School, Mr. Marling, Chief Clerk, and Dr. May, of the Depository. His Excellency's first visit was to the Model Schools. The school-room and class-room were all tastefully decorated by Mr. Hughes, Mrs. Cullen, and the other teachers of the school. In the boys' school-room was the motto "Cead Mille Failte," in the girls' school-room, "Welcome Lady Dufferin," and in the class-rooms monograms enclosed in circles and surmounted by Earl's coronets, all in Autumn leaves. In the large school-rooms were drawings in chalk, by Mr. W. Armstrong, C.E., drawing-master, and mottoes in old English written with the same material, by Mr. S. Clare, writing-master. The whole displayed great taste; but the *chef d'œuvre* was unquestionably a chalk drawing on the blackboard in the boys' school-room by Mr. Armstrong, representing in a most truthful manner two Indians shooting the rapids in a canoe, from the stern of which floated a pennon bearing His Excellency's motto "*Per vias rectas*." By the side of this sketch was Lord Dufferin's coat of arms surmounted by a coronet and a banneret with the motto "straight forward," all delineated in chalk with surprising distinctness. His Excellency first visited the class-room of the 1st division of the Girls' Model School, where the pupils were at work under Mrs. Cullen, the head mistress. A young lady named Lousia Connor presented a bouquet and holder to the Governor-General for the Countess, which His Excellency very graciously received. The girls were questioned in arithmetic and mensuration by Mrs. Cullen, and answered with great readiness and precision. His Excellency took great interest in the proceedings, and questioned the head mistress as to the mode of teaching employed. A poetical selection having been very correctly read by the pupils of this division, Lord Dufferin proceeded to another room, which contained the girls of the 2nd division, under the charge of Miss Jones. These sang two pieces, with considerable taste, under the direction of Mr. H. F. Sefton, music master. One of the pupils, Alice Hay, presented His Excellency with a bouquet and holder, the gift of the 2nd division to Lady Dufferin. The Governor-General expressed the regret Her Excellency felt at her inability to be present. The girls of this division then went into the large school-room and read Elihu Burritt's "One niche the highest," in reference to which His Excellency briefly questioned them. He then proceeded up stairs to the 3rd division class-room, where he was also presented with a handsome bouquet and holder, for Lady Dufferin, by a pretty little girl named Florence Dunn, which Lord Dufferin received with a smile and thanks. The teacher of this division, Miss Adams, led the children in singing, and questioned them in mental arithmetic, the answers being given with a rapidity and correctness marvellous in such young pupils. Hence His Excellency was conducted to the 1st division of the Boys' School, where Mr. Hughes, head master, gave a lesson on botany to allow the Governor-General to judge of the method of teaching. The boys then read aloud the Poet Laureate's poem on the Funeral of Wellington. The reading of some of the boys was especially good, and one earned a marked compliment from His Excellency. Lord Dufferin questioned the boys on the characters of Nelson, Wellington and Napoleon respectively, and then proceeded to visit the 2nd division, whose teacher, Mr. Scroft put questions to the boys on the nature and classification of tactions, and problems, testing his pupils' practical acquaintance

with them. The next room visited was that containing the 3rd division. Here the teacher, Mr. McPhedrain, elicited proofs from the members of this junior division of their knowledge of English Grammar, and His Excellency also put a few questions on the same subject. The last division in the Model School, the 4th of boys, who were all of tender years, was then examined in elementary arithmetic and natural history, partly by His Excellency and partly by the teacher, Miss Carter.

The Vice-regal party then went into the Normal School. In one of the lecture halls, up stairs, the 2nd division were assembled under instruction from Dr. Carlyle, mathematical master. Dr. Carlyle briefly examined the male and female pupils in physiology, and Dr. Davies in analysis.

His Excellency then congratulated the students on the means they had afforded them for qualifying themselves for the career before them. Even should circumstances hereafter preclude their fulfilling their present intention in that respect, they would never have cause to regret the time they had spent there or the lessons they had learnt, which would give them a foundation of education which would prove an endless source of delight to them in after life, and would enable them to turn to the best advantage whatever opportunities might arise. If he might venture to offer a recommendation to those who were about to repair as masters and mistresses to the several local schools in the country, it would be to be very careful to do their best to develop the general intelligence of their pupils, by not merely going through the routine of the several courses which might be prescribed by the authorities of the school, but by seeing that, in giving answers, their pupils thoroughly understood the process by which those answers should be arrived at. He also urged them to pay strict attention to teaching the children to pay due and proper respect to those who were older than themselves, to show deference to age wherever they met with it.

His Excellency next visited a lecture-hall down downstairs, where the more advanced pupils of the 1st division were receiving instruction in chemistry from Mr. T. Kirkland, M.A., Science Master. After listening to a portion of Mr. Kirkland's lecture, and witnessing some of the experiments by which it was illustrated, Lord Dufferin repeated in substance the remarks he had just made to the 2nd Division pupils, adding an expression of the anxiety he had felt to become acquainted with what he had understood to be one of the best systems in the world, and of his complete satisfaction with what he had witnessed. He then returned to the boy's school room, where all the Model School boys were congregated. His Excellency took a seat on the platform and listened to a recitation by two boys, named McPherson and Hodgetts, of Sir Walter Scott's "Parting of Douglas and Marmion," which had been altered by Mr. Hughes from the narrative to the dialogue form. The recitation was given in a highly creditable manner, and so gratified His Excellency that he expressed his desire to have the boys presented to him. He shook hands and conversed with them briefly; after which the boys of the 2nd, 3rd and 4th divisions left the hall, and those of the first division went through a short examination in drawing, conducted by his Excellency, who took the chalk in his hand, and illustrated on the blackboard the first principles of perspective of which he was an able master, greatly to the amusement of the boys at the expertness of their novel teacher. He then proceeded to the gymnasium where the boys of the 2nd and 3rd divisions were exercised in drill and gymnastics by Major Goodwin. The drill was highly creditable and elicited the warm commendation of Lord Dufferin and Mr. Coulson. Some of the lads showed considerable skill on the horizontal bar, and were complimented by the Governor-General on their ability. His Excellency accompanied by Mr. Coulson, left the building shortly before two o'clock, and returned foot to Holland House, having been nearly three hours in the establishment.

3. VISIT TO THE UNIVERSITY OF TORONTO.

LORD DUFFERIN ON UNIVERSITY EDUCATION.

The annual convocation of University College took place on the 18th October, and was graced by the presence of their Excellencies the Governor-General and the Countess of Dufferin. In response to an invitation from the authorities of the College, Lord Dufferin consented to take a prominent part in the proceedings by presenting the prizes to the successful candidates; and advantage was taken of the occasion by the Senate of the University, conjointly with the Council of University College, to present an address of welcome to his Excellency.

The hour fixed for opening of convocation was three o'clock, and long before that time the Hall was well filled with ladies, while snatches of rousing songs, such as "Old Grimes" to the tune of "Auld Lang

Syne" floating in from the adjoining portions of the building, denoted the presence of the hilarious corps of undergrads. At three o'clock, a procession entered the Hall in the following order:—Undergraduates and graduates, in the following order: A.Ba., M.Ba., LL.Ba., M.Da., M.As., and LL.Da., officers and members of the University Senate and College Council: esquire and yeomen bedels, with maces; Vice-Chancellor of the University, and President of University College. The graduates and undergraduates took their seats on benches running down each side of the Hall, and the members of the Senate and College Council occupied positions on the dais. The Governor-General took the chair in the centre of the dais, supported on his right by the Rev. Dr. McCaul, in his President's robes, and on his left by the Hon. Adam Crooks, in his University gown and hood. Lady Dufferin sat on Dr. McCaul's right, with Mrs. McCaul by her side, and Col. Fletcher, military Secretary to the Governor-General, on the extreme right. Mrs. Howland was on the left of Mr. Crooks, with Capt. Curtis, A. D. C. to the Lieutenant Governor, on her left. Lord Dufferin wore the star of St. Patrick on his breast, and the ribbon of the same order under his coat. The Rev. Dr. Ryerson, Chief Superintendent of Education and the Hon. A. McKenzie, &c., had seats on the dais.

On their Excellencies being seated, Mr. John A. Boyd, M. A., advanced and read the following joint address of the University and University College:—

"To the Right Honourable Frederick, Earl of Dufferin, K.P., K.C.B., Governor-General, &c., &c.:

"*May it please your Excellency*,—The Chancellor, Vice-Chancellor, and Members of the Senate of the University of Toronto, and the President, Professors, and other officers of University College, gladly avail themselves of the present opportunity to tender a hearty welcome to your Excellency and the Countess of Dufferin, upon the occasion of this your first visit to this seat of learning; and at the same time to present their united congratulations upon the well-merited confidence and esteem wherewith Her Most Gracious Majesty has honoured your Excellency, in intrusting to your hands the Government of the Dominion of Canada.

"The objects and aims of this University and this College,—established and endowed by Royal bounty, for the advancement of learning, the cultivation of science and literature, "the education and instruction of youth and students in arts and faculties,"—will sufficiently commend themselves to your Excellency's countenance and sympathy.

"That well-known devotion to art and literature which has graced your Excellency's distinguished career in public affairs, gives the assurance that your Excellency will favourably regard institutions whose work it is to advance the cause of learning, and to qualify the youth of the country for the efficient discharge of the duties of life.

"While renewing their expressions of congratulation and welcome, the authorities of the University and the College rejoice in the conviction that your Excellency will manifest in the future, as in the past, a warm and steady friendship for the interests of liberal education; and they sincerely hope that the "New Dominion" may long afford an ample and congenial field for the exercise of your Excellency's abilities.

The address was signed, "Adam Crooks, LL.D., Vice-Chancellor of the University. W. G. Falconbridge, M.A., Registrar. John McCaul, LL.D., President of University College. W. H. Vandersmissen, M.A., Acting Registrar."

His Excellency intimated to Dr. McCaul that he would reply at the end of the Convocation, a fact which was notified to the audience by Mr. Boyd. The Rev. the President then rose and said it was with great gratification he had to announce that his Excellency the Governor-General had graciously consented to distribute the prizes at their annual Convocation. (Applause.) In consequence of this, the candidates for admission would not be presented. The Registrar would present their names, and next week they could call at the Registrar's office and subscribe their names on the register. It would also not be necessary for his colleagues or himself to do more than present the successful candidates to His Excellency. He felt it to be his duty, however, as there would be no opportunity for the professors to state their opinions of the successful candidates, to assure the audience that no candidate would be presented for a prize who had not obtained it well and honourably after strict examination. He congratulated all present on the honour that had been done to both University and College by the visit of His Excellency the Governor-General of the Dominion. (Applause.) He congratulated the successful candidates on their good fortune—a good fortune that they would long remember in the evening of life, perchance—in receiving their prizes from the hands of the Earl of Dufferin. He believed they would value it all the more, because the Countess had done them the honour to give a charm to their Convocation such as it never obtained before.

The Acting Registrar, Mr. W. H. Vandersmissen, M.A., informed His Excellency of the names of the students who were matriculated at the recent examination. The professors then called up the several prize men and presented them to the Governor-General who distributed the prizes with an appropriate word or two to each student. Lord Dufferin also shook hands with them. This concluded the ordinary exercises of Convocation.

His Excellency then rose, and, when the hearty cheering with which he was greeted had ceased, said; Dr. McCaul, ladies, and gentlemen;—I cannot quit the presence of this distinguished company without desiring in a few words to express to the Chancellor, to the Vice-Chancellor, and the authorities of this institution and to those who, other upon this occasion, have associated themselves with them in the pleasing welcome which they have been good enough to extend to Lady Dufferin and myself, my best thanks for the kind and hearty reception which they have accorded us. I have been looking forward for a considerable time with the greatest pleasure and with the greatest eagerness to this occasion. I had long since heard of the admirable system of education which had been established in the Province of Ontario, and especially in the University of Toronto. (Applause.) But I must say that any expectations I may have formed however pleasing, have been infinitely surpassed by the pleasure I have experienced in my visit. (Applause.) Until I reached Toronto itself, I confess I was not aware that so magnificent a specimen of Gothic architecture existed upon the American continent. (Applause.) I can only say that the citizens of Toronto, as well as the students of this University have to be congratulated, in the first place, that, amongst the inhabitants of their own Province, there should have been found a gentleman so complete a master of his art as to have been enabled to decorate this town with such a magnificent specimen of his skill; and, in the next place, on the liberality and public spirit of the Government and the people, which placed at his disposal the means for executing his design. (Applause.) But it is not only on account of the material appliances for the distribution of instruction that I have to congratulate you. I must also felicitate those whom I see present still more upon the fact that they have been able to collect within these walls, and to furnish this Hall and its chairs with a President, and with a body of Professors, amply worthy of the building which they occupy. (Applause.) Thanks to an intimacy I had the good fortune of forming with some relatives of Dr. McCaul, before I reached Canada, I was in some measure aware of the successful nature of his labours, and of the noble work upon which he was engaged. (Applause.) Since my arrival here, I have also been able to assure myself that, perhaps, in no other educational establishment is there to be found a more competent body of Professors, or a collection of gentlemen who, in their several departments, are more qualified to do justice to the subjects which they undertake to teach. (Applause.) It is a special matter of congratulation to the inhabitants of Toronto that there should be residing in their midst a body of gentlemen of this description, because it cannot fail to be an advantage to any society that, mixing upon familiar terms with them upon every occasion, there should be found gentlemen of erudition in each several department of human knowledge, inasmuch as their presence and their conversation cannot fail to stimulate the intellectual and the mental activity of all who have the happiness of being acquainted with them. But, of course, ladies and gentlemen, it is rather in their professional and professional character that we have now to consider them, and I must say that nothing has taken me more by surprise, while, at the same time, nothing has given me greater pleasure, than to have perceived, in consequence of the pleasing duty which I have been called upon to perform, that, within the walls of this University, a greater number of subjects is taught, and a more practical direction is given to the education and to the studies of the students than within the walls of any University with which I have been hitherto acquainted. (Applause.) All I can say is, that I myself, who have been educated at Oxford, should have been extremely grateful if the same means, the same appliances, and the same advantages for pursuing the various branches of study, which were not then considered by any means a necessary portion of the curriculum, had been placed within my reach. (Applause.) But, while I hasten to pay this compliment to the practical character of many of the departments over which these distinguished gentlemen preside, I trust it will not be for a moment imagined that upon that account I am one of those who are disposed to undervalue or to desire to see relegated to an inferior position that which I consider to be the backbone of a liberal education. I mean the arts and the Greek and Roman classics. (Applause.) I am happy to think that, amongst the many students to whom it has been my good fortune to deliver prizes, there have been several young gentlemen who have distinguished themselves both in Latin and in Greek, and I think that, especially in a new country like

this, where there is such an exuberant display of all the riches of nature—where naturally every one almost is primarily concerned in material pursuits—it is a point of the very greatest importance that the lessons and the experiences of antiquity should not be lost sight of, but that a knowledge of the learning, of the poetry, and of the history of the past, should liberalise our modern ideas. (Applause.) In considering the educational system of Toronto, so far as I have been able to make myself acquainted with it, it seems to me as though its University were the key-stone of that educational arch upon which the future prosperity of the Province must depend. (Applause.) Owing to the very high standard which has been fixed for matriculation, there is naturally required of every educational establishment of a lower degree the maintenance of a correspondingly high standard, while that standard itself becomes the platform upon which the students, when once they have succeeded in entering your walls, take a new departure, and endeavour to reach, before they have finished their University career, even a higher standard still. And now, in conclusion, I would be permitted to say a very few words more, especially addressed to the students of the University themselves. I by no means venture to read them a lecture, or to preach them a sermon; but I would simply remind them that perhaps in no country in the world, under no possible conditions which can be imagined, do a body of young men, such as those I see around me, start in life under more favourable auspices, or enter upon their several careers with a more assured certainty that, by industry, by the application of their intelligence, by sobriety of manners and of conduct, they may attain the greatest prizes of life. I would remind them that they are citizens of a country in which all the most cherished prizes of ambition are open to all—that, however humble the origin of any one of them may have been, there is no position in the service of the country which he may not hope to attain, and such a position is one of the most honourable objects of ambition which a young man could put before him as his aim in life. And I would further remind them that they may hope to achieve, not only the prizes which exist in this country in the several professions they may adopt, or in the public service of the Dominion, but there are other prizes of an imperial nature within their reach, for the Queen of England does not stop to enquire whether a deserving citizen is an Australian, or a Canadian, or a Scotchman, or an Irishman, or an Englishman; it is enough that he should have rendered the State good service, and this is his title to her favour and reward. (Applause.) Already we have in this country a distinguished example of the truth of what I have said. Within a few weeks past, to a native born Canadian, but one of the most distinguished servants of the Empire, the Queen has been pleased to extend a signal mark of her favour, and has called Sir John Macdonald to be a member of the Imperial Privy Council. (Applause.) There are others, friends of my own, who, in their early life having been Colonists, on returning to England fought their way into Parliament, and are now counted among the most distinguished and successful rulers of the Empire. It will be enough for me to make this slight allusion to this subject. I am sure those I am addressing will lay it to heart, and the lesson I have ventured to inculcate will not be lost upon them. Ladies and gentlemen, I have to apologise for the extremely imperfect nature of these remarks. It was not until a very short time before I made my appearance among you that I was made aware that I should be called upon to do more than make a formal reply to the very cordial address with which I have been honoured. Had I known that this opportunity would be afforded to me, of addressing for the first time since I have been in Canada, an audience so distinguished in every respect, both for its learning, and, I may say its beauty (applause), I certainly should have made that preparation which I feel to be necessary, and the want of which I trust you will kindly excuse. (Loud applause.)

Dr. McCaul then presented the officers and members of the Senate of the University, and of the Council of the College, as well as a number of the alumni of the institution, after which three cheers were given for the Queen, three for the Governor-General, three for Lady Dufferin, three for the professors, and three for the ladies.

The Vice-regal party left the building at 4 o'clock.

4. HIS EXCELLENCY'S INSPECTION OF UNIVERSITY COLLEGE.

On the 26th ult., the Earl of Dufferin, attended by Lieut. Coulson, A.D.C., arrived at University College, which he had expressed a desire to inspect. He was met by the President, the Rev. J. McCaul, LL.D., and conducted to the library, where the professors and officers were presented to His Excellency. After spending some time in the library in conversation with the professors, and in examining the ancient MSS. which it contained, Lord Dufferin proceeded to the museum, which he examined with much interest, under

the guidance of Dr. Wilson and Dr. Nicholson. He then visited the various lecture rooms and the laboratory, the arrangement of which was explained to him by Dr. Croft. His Excellency next visited the President's room, after which he viewed Convocation Hall from the gallery. Here and throughout the building he expressed great admiration of the architecture, which is so fine a specimen of the Norman style. Having expressed a wish to see the accommodation afforded to the students, His Excellency was conducted to the west wing, and shown into two comfortable rooms occupied respectively by Mr. Dickey, of Nova Scotia, and Mr. Kennin, students of the college. He then proceeded to the large and commodious dining-room, in which the students were beginning to assemble for dinner. Thence he descended to the kitchen, and after examining the cooking apparatus, returned through the dining-room, where he was greeted with three hearty cheers from the students as he passed. On reaching the vestibule, His Excellency expressed his satisfaction with all he had seen, and the pleasure he had received from the visit. He then bade adieu to Dr. McCaul and the other Professors, and drove away to Holland House.

5. UNIVERSITY COLLEGE ATHLETIC SPORTS.

The athletic sports in connection with University College took place on the 22nd ult. Their Excellencies the Governor-General and the Countess of Dufferin, accompanied by Col. and Lady Harriet Fletcher, arrived about four o'clock, and witnessed the last two races. They were received by the Rev. Dr. McCaul, by the President of the Committee of Management (Mr. A. M. Turnbull), and the Secretary (Mr. W. E. Hodgins), and were warmly received by the vast assemblage present, the band playing the National Anthem. It having been announced that the prizes would be distributed by the Countess of Dufferin, the hall was soon filled with an eager audience. The prizes, which were numerous and very handsome, were laid out on a table on the dais at the northern end of the hall. At the conclusion of the sports, the fair Countess distributed the prizes to the fortunate competitors. At the close of the distribution, the Rev. Dr. McCaul said, on behalf of the College authorities, and the large assemblage present, he begged to return their Excellencies the most cordial thanks, for honouring them with their presence on that occasion. More especially did he thank the Countess of Dufferin, who had so graciously performed the task of presenting the prizes to the fortunate competitors, and he could assure Her Excellency that the competitors would value those prizes with far greater regard on that account, than for their intrinsic value.

Lord Dufferin, on behalf of Her Excellency, expressed the pleasure which she had felt in taking part in so interesting a ceremony, and remarked that it was a great gratification to him, to find introduced into this new country, the manly sports which were so popular in the Mother-land. They had had the pleasure of being present at a celebration connected with the studious pursuits of the College. He could hardly make it a matter of less importance to the education of the youth of the country, that due attention should be paid to athletic exercises. These required a certain amount of training, and the exercise of self-restraint, care, temper and judgment; and there was no reason why a young man who could kick a football further than his fellows, should not be able to make a perfect translation of a difficult passage in Horace. (Applause.) It might not be altogether unfair to conjecture, from the frequent use which St. Paul made of the imagery derived from the ancient arena, that on various occasions in his life he must have been a spectator of the games of his countrymen. In conclusion, on behalf of Her Excellency, he wished those who had not received prizes on that occasion, more success next time. (Applause.) Three cheers were then given for their Excellencies, the band played the National Anthem, and the viceregal party left the University.

6. LORD DUFFERIN'S VISIT TO TRINITY COLLEGE.

On the 17th ult. the Earl and Countess of Dufferin paid their promised visit to Trinity College. The British Ensign was draped over the Chancellor's chair in the hall, and over the southern entrance was placed a scroll bearing Lord Dufferin's motto, "*Per vias rectas*" most tastefully executed. The professors, graduates, and undergraduates, assembled in the Hall of Convocation. Their Excellencies arrived soon after eleven o'clock, and were met at the principal entrance by the Rev. Provost Whitaker, Dr. Hodder, Dean of the Medical Faculty, and the Rev. professor Ambury, who conducted them into the hall. The Chancellor of the University, the Hon. John Hillyard Cameron, received their Excellencies in the hall, and led them to seats on the dais, Lord Dufferin occupying the Chancellor's chair, and Lady Dufferin a chair on his right.

Their Excellencies were accompanied by Col. Fletcher, Secretary to the Governor-General. The following members of the corporation were present, in addition to those already named:—The Right Rev. the Bishop of Toronto, Rev. Professor Jones, the Very Rev. the Dean of Toronto, Hon. G. W. Allan, Mr. Lewis Moffat, Rev. Saltern Givins, Mr. C. J. Campbell, and Mr. Salter J. Vankoughnet.

The Chancellor read the following address:—

"May it please Your Excellency:—

"We, the Chancellor, masters, and scholars, of the University of Trinity College, Toronto, beg to welcome your Excellency within our walls, with the profound respect which is your due, alike in your official and in your personal capacity.

"Having been established for the purpose of educating the sons of members of the Church of England, Trinity College regulates its course of study and its discipline, with a view to the fulfilment of of this primary obligation; but it does not exclude, either from the instruction which it imparts, or from the distinctions which, as a university, it is empowered to confer, members of other religious bodies who consent, during their residence, to receive its teaching and to conform to its rules.

"We trust, therefore, that we are doing a work which is directed to the benefit, not of our own Church alone, but of the whole community; and we assure your Excellency that it has ever been our solicitous endeavour to cherish a devoted loyalty to the Crown, and to promote the closest connection with the Mother-country, believing that that connection is essential both to our political security and to our social progress, and must always conduce to the perpetuation amongst us of a high standard of morals and character.

"We would express our grateful sense of the kindly interest in the College which has been shown by Your Excellency and by Lady Dufferin, in honouring us by your presence on this occasion, and our earnest hope that, in the administration of your high office, the sense of public benefits conferred and of public confidence enjoyed may ever be a source of pure and generous happiness to yourself and to every member of your family."

His Excellency made the following verbal reply:—

"Mr. Chancellor and Gentlemen,—I beg to return you, both on my own behalf and on behalf of Her Excellency, our warmest thanks for the very kind reception which you have been good enough to prepare for us. I can assure you it gives me the greatest pleasure to find myself within the walls of Trinity College. Myself a member of the Church of England, having the profoundest veneration for that communion, and the firmest belief in the purity of her worship, in the soundness of her doctrine, and in the beneficence of her ministrations, it is naturally a source of satisfaction to me individually to find established in this country an institution whose object it is to provide the Province of Ontario with ministers of the Anglican communion, whose duty it will be to preserve unblemished and intact the principles and the faith of the English Church, and to maintain in their several parishes that reputation for her pastoral charities which has so much endeared the Mother Church to the population of Great Britain, and has even gained for her the admiration and respect of those who do not belong to her. On the other hand, it is no less a satisfaction to me, as a scholar, to think that, thanks to the methods in which instruction is administered in this establishment, that high character for learning and that tone of refinement which characterize the ministers of our Church at home should also be maintained and preserved in this country. I have to thank you, Mr. Chancellor and gentlemen, as the representative of Her Majesty, for those expressions of loyalty to her person and her throne which have found a place in your address, and still more, perhaps, for those expressions of sympathy with your fellow subjects in the Mother-country which distinguish you, as it does every other Canadian corporation and all the inhabitants of the Dominion. I am well aware that, in some respects, this institution, may be considered to have been the child of your misfortune; that, in time gone by, you suddenly found yourselves confronted by difficulties which were unexpected; and that, unlike those other denominations in this country who, from their earliest infancy had been taught to support themselves without any assistance from the State, you suddenly found yourselves confronted by an unforeseen emergency. But the very fact that, so soon after this change had taken place, such an institution as this should have been established, should have flourished, and should now possess so fair a prospect, is itself a proof that the devotion and the zeal of the members of the English Church in Canada were fully equal to the occasion. In conclusion, I can only trust that you may continue to enjoy the confidence of your fellow-churchmen, and that you may continue to send forth, year after year, to the various parishes of the Province, ministers of the Gospel who shall maintain and extend the influence of the Church of England, and that you may supply recruits to the various

learned professions whose lives shall prove a credit to her teaching. Great applause followed His Excellency's remarks.

The Chancellor then presented the Rev. the Provost to the Governor-General. The Provost presented the following Professors:—Rev. John Ambery, M.A., Professor of Classics; Rev. William Jones, M.A., Professor of Mathematics; Rev. Ogden Pulteney Ford, B.A., and Mr. R. G. Cox, B.A., Classical Lecturers; and Dr. E. M. Hodder, M.D., F.R.C.S., Dean of the Medical Faculty. Dr. Hodder presented the following professors and lecturers in the Medical Faculty:—Drs. Bethune, Hollowell, Geikie, Fulton, Coventon, Temple, Kennedy, Ellis, Robertson, Johnson, and Mr. C. R. W. Biggar, B.A.

The party were then conducted over the building by the Chancellor, accompanied by the Provost, the Bishop, the Dean, and Professor Ambery. They visited the library, the chapel, and some other apartments. On his way His Excellency entered into conversation with several of the students. He, with Lady Dufferin, shortly afterwards took his leave.

7. VISIT TO UPPER CANADA COLLEGE.

SPEECH ON ENGLISH EDUCATION.

On the 15th of October, the Governor-General visited and inspected Upper Canada College. His Excellency arrived at eleven o'clock, accompanied by Lieut. Coulson, A.D.C. He was received by his Honour the Lieut-Governor, Visitor of the College; the Hon. Adam Crooks, Rev. Dr. Jennings, and Dr. Larratt W. Smith, representing the college committee of the Senate; and Mr. G. R. R. Cockburn, M.A., Principal. Mrs. Howland, Capt. Curtis, A.D.C., Mrs. Cockburn and Mrs. Zane, were also present. Lord Dufferin immediately proceeded to visit the boarding-house and the classrooms, where the following masters were presented to him:—Messrs. W. Wedd, M.A., first classical master; J. Brown, M.A., first mathematical master; J. Martland, B.A. second classical master and resident master in the College Boarding House; M. Barrett, M.A., M.D., first English master, and lecturer on chemistry and physiology; C. J. Thompson, second English master; Rev. E. Schlueter, M.A., French and German master; Messrs. A. Baker, M.A., assistant mathematical master, and resident assistant master; G. B. Sparling, assistant English master, and resident assistant master; T. Wicher, junior assistant English master, and resident assistant master; R. Baigent, drawing master; and J. D. Andrews, instructor in gymnastics, fencing, and drill; besides the Bursar, Mr. D. Buchan.

His Excellency took great interest in learning the mode of instruction pursued in the College, and listened to some of the lessons imparted by the masters. The boys comprise representatives not only from all parts of the Province, but even from a State of the Union so distant as Georgia. The Principal called the attention of the noble lord to the plans for the extension of the building. The present accommodation has been found wholly inadequate to the requirements, and the centre building is to be extended about forty feet to the south, and to be improved by the erection of a new front. After spending a considerable time in the inspection of the college, his Excellency and the other visitors were conducted to the lecture-hall, the body of which was filled by the boys.

The Principal then read the following address:—

May it please your Excellency:

We, the Principal and masters of Upper Canada College, with a deep sense of the honour conferred upon us, beg leave most respectfully to welcome your Excellency and the Countess of Dufferin to this institution.

We recognize in this visit of your Excellency the deep interest you feel in the higher education of the youth of this Dominion.

Upper Canada College was founded by Royal munificence at an early period in the history of the Province, and when the resources of the country were not sufficiently developed to justify any expenditure of money beyond what was absolutely necessary to meet the immediate wants of the time, so that our present building possesses no architectural embellishments.

Owing to the large number of youth desiring to profit by the scholastic advantages offered by Upper Canada College, the classrooms can no longer afford the accommodation demanded by the educational requirements of the present day—a defect, however, which we are justified in believing, will soon be remedied.

We trust your Excellency will judge of Upper Canada College, not by the extreme modesty of its building, but by its educational results.

We venture to point with pride to the long list of names of those gentlemen formerly Upper Canada College boys, heretofore and now, distinguished legislators and honourable men of this Province. The honour lists of the University of Toronto and of the several

universities of the Dominion, and, in a less degree, those of the Mother-country amply testify to the character of the training received within these walls. Nor have the boys of Upper Canada College been less honourably distinguished in other careers of life; they have borne themselves bravely on Danubian, Crimean and Indian battle-fields, and we believe that we may safely appeal to the leading merchants of the Dominion as to the energy, ability and Christian character displayed by those who have preferred a mercantile career.

It having been found by experience that many boys cease to attend school at a comparatively early age, owing to the pressing wants of a new country, it has been deemed necessary within the last few years to put in practice the recommendations of the Royal Educational Commissioners of Great Britain, and to adapt the educational machinery so as to provide for boys not intended for a professional career—a liberal course of study, in which, whilst the lessons and experiences of antiquity are not lost sight of, more than usual attention is bestowed upon the more prominent branches of Science, the Modern Languages, and the History and Literature of the great Empire to which it is our pride to belong, and of whose Most Gracious Sovereign your Excellency is so noble a representative.

We trust that your Excellency will favourably regard an Institution of which, until the Confederation of these Provinces, your predecessors were the official visitors; and we cherish the hope that at no distant day these halls may be again graced by your Excellency's presence and that of Lady Dufferin.

(Signed), G. R. R. Cockburn, M.A., Principal, U. C. College.
W. Wedd, M.A., Secretary.

His Excellency, in reply, said:—Mr. Principal, Ladies, and Gentlemen,—I can assure you that it is with very great pleasure I find myself within these walls. Any institution which contains within it such a specimen of the youth of a country must be one of the most interesting sights which could be presented to the eyes of those who are in any way connected with its administration, and I am sure that both to the Lieutenant-Governor and to myself the aspect of so many bright and intelligent faces is a matter of the greatest satisfaction. I have had the pleasure already of passing through the various class-rooms, of informing myself of the course of instruction communicated at this college, and of making the acquaintance of those gentlemen who superintend the studies of the pupils; and, from first to last, I have seen nothing but what appears to me to be based upon the most admirable principles for the instruction of youth. As I understand, it is the ambition of those who direct the internal affairs of this establishment, to assimilate, as far as possible, the principles of its moral government to those which have proved so successful in the administration of the great public schools in England. Well then, sir, I ask myself what are the leading features of an English public school; and here I would lay aside for the moment any reference to any particular course of study which may be pursued at those establishments, because they vary in different localities and are influenced by different considerations, but there is one feature which is common to them all, and that is, that the authorities who are charged with the responsibilities of the education of those young lads have laid down for themselves this golden rule, that they will not treat the boys placed under their care as mere children, as incapable of themselves discerning between what is right and what is wrong, between what is honourable and what is dishonourable; but will endeavour to create among their pupils a healthy public opinion, and through its instrumentality maintain the proper discipline of the school. I am certain that there is no more fruitful principle, no more certain mode of gaining at the same time the confidence of the pupils and enlisting them on the side of order, regularity and good conduct, than by thus making an appeal to their honourable feelings. Educated myself at a public school where, perhaps, this principle of trustfulness towards the boys has been carried out to the greatest extent, I know how it acts upon the minds of the individuals who are thus honoured by the confidence of their masters. Although, of course, like other boys, we were very often idle, and occasionally disobedient, although we committed many things for which we deserved punishment, and for which, I must say, we received it, yet we each of us had this feeling, that, placed upon our honours, as it were, we disdained to commit a base, a dishonourable, or an unworthy action. (Loud applause.) Perhaps the distinction between what was strictly right and wrong was somewhat confused; though we gave rather a liberal interpretation to the code which we thus set ourselves, yet notwithstanding any imperfections of this kind, there was not one of us who, if discovered in a fault, or accused of any act of disobedience, would have hesitated to avow his fault, or would have sought refuge in anything so dastardly as a lie. There was also another principle to which an appeal was made with success, and which worked with great benefit among the boys—the principle of

endeavouring to impose upon the elder lads a certain degree of responsibility, not only in regard to the example they set, but, in reference to the active influence they exercised among their junior companions. This was a very healthy principle. I do not think that the authority thus delegated was ever abused, or that the boys who were the most conscientious in its exercise were at all unpopular upon that account with their younger colleagues; and I am sure a kindly word of warning from a boy whom we felt to be superior to ourselves, not only in his moral character, his age, or learning, but also in his skill in manly sports, exercised a most healthful, and pleasant influence upon our own conduct. (Applause.) We always, of course, knew we were school boys, and willingly and gladly submitted to the discipline we were called upon to obey; but our masters were always careful to inculcate upon our minds that, because we were school boys, we had not ceased to be English gentlemen. I will not dwell further upon this point because I know that to a youthful audience, brevity is the soul of eloquence; but before concluding, I wish to say with what satisfaction I have perceived the catholic character of this establishment, not only in the technical acceptance of that term in respect of its freedom from any religious restrictions or controversial impediments to its utility, but in the sense that its healthful influence seems to extend throughout the whole Dominion of Canada, and even into distant parts of America. I have already had the pleasure of speaking to two or three boys who have come from the Southern States, one from Georgia and another I think from New Orleans; and it speaks well for the reputation of this college that such distant students should have been attracted to its walls. There is also another very favourable regulation which I have observed, and which had not been thought of when I was a boy, and which, in a country like this, cannot fail to be of the greatest convenience. I mean the principle of allowing the streams of education, after they have flowed together for some time, to bifurcate in different directions, so as to allow the boys to follow the course which their taste or talents point out, or their parents in their discretion may select for them. By this means you are able to furnish students to all the varieties of occupation which are so multifarious in a new country. It must be a source of pride to you that this college should have furnished to the annals of the State the names of so many distinguished persons. You already count among those who have gone before you the Prime Minister of the Province, and perhaps some day you may also be able to point out, as amongst the numbers of your predecessors, the Prime Minister of State. (Applause.) We have present here to-day one of the most distinguished gentlemen of this Province, a person eminent in the legal profession, who was also a pupil of this establishment, and it must be a mutual satisfaction to him, as well as to the pupils assembled in his presence, that they should have this opportunity of meeting. (Applause.) I thank you, Mr. Principal, I thank you, ladies and gentlemen, and I thank you, boys, for the kind and hearty welcome you have given to the representative of Her Majesty; and I am quite certain that, wherever a Canadian boy is to be found, there, also, Her Majesty will find a loyal subject. (Loud cheers.) His Excellency subsequently rose again, and requested the authorities to grant the boys a whole holiday. The Principal consented, and fixed upon Monday for the holiday. The boys of the Sixth, and the exhibitors of the Fifth Forms were then presented to his Excellency, and the vice-regal party left the building.

8. INSPECTION OF THE CITY PUBLIC SCHOOLS.

On the 23rd ultimo, His Excellency inspected two of the city Public Schools. He first visited the John Street School, where the following members of the Board were present:—Dr. H. H. Wright (Chairman), Dr. Ogden, Dr. Adams, Messrs. W. McMurrich, J. Bain, J. Spence, J. Robinson, E. Coatsworth, S. McGowan, J. Bazeley, W. Lee, and C. Fisher. Of these, Dr. Wright, Messrs. McMurrich, Ogden, and Lee, formed the reception committee, of which Mr. McMurrich was the chairman. There were also present at the school, to meet His Excellency, the Hon. John McMurrich, ex-chairman of the Board, Dr. J. G. Hodgins, Deputy Superintendent of Education, Mr. G. A. Barber, secretary of the School Board, Rev. James Porter, City School Inspector, Mr. H. F. Sefton, music master, and Mr. H. C. Wilkinson, truant officer, besides a number of ladies. The school was prettily decorated throughout with evergreens, flags, designs in maple leaves, and mottoes, such as "Welcome, Lord Dufferin," and "God save the Queen." Lord Dufferin was received by Dr. Wright, as Chairman of the Board, and Mr. W. McMurrich, chairman of the reception committee. After the usual formalities, His Excellency was conducted by these gentlemen to the class-room of the Head Master, Mr. McAllister, where the members of the Board were in waiting to receive His Excellency. The different rooms were very hand-

somely decorated for the occasion, particularly those of the Head Master, and also those of the Head Mistress, Miss Boddy. The decoration upon the Head Master's desk was very beautiful, and attracted much attention. It consisted of a border of variegated autumn leaves, interspersed with white berries. One of the mottoes was particularly appropriate—being "To make the boy a good scholar: the scholar a good boy." As His Excellency entered the boys' school-room, all rose, and the children sang "God save the Queen."

Dr. Wright conducted the Governor-General to the dais, and proceeded to read the following address:

"May it please your Excellency:

"The Public School Board of Toronto desire to unite with other public bodies, as well as with its fellow-subjects in general, in cordially welcoming your Excellency and the Countess of Dufferin to this Province and this city, and we desire to especially welcome your Excellency on the occasion of your visit to our Public Schools, as we feel assured that your Excellency feels the same warm interest in the schools of the people as in collegiate and university education.

"Since this Board was first established, in 1859, there have been erected and furnished with all needful appliances not less than twelve commodious and handsome school-houses in different parts of the city, and we are now engaged in erecting another school-building, with which will be connected accommodation for the Board and officers.

"Sixty-two teachers are at present employed in our schools, a daily average of 5,000 children, boys and girls of various ages, receive regular instruction in those useful branches of knowledge required to prepare them for industrial pursuits after leaving school, while, in addition to these more practical studies, the rudiments of drawing and vocal music form a part of each day's occupation.

"Soon after the schools were first organized, our fellow-citizens, in public meeting assembled, determined that the same should be free to all. Since then, the Legislature has affirmed the principle of free schools as the law of the land, so that by this means the blessings of a good education have been secured, for all time to come, to all classes of the rising generation of this city.

"The total cost of our present school buildings, furniture, and apparatus, may be stated at \$150,000; the expense of maintaining the schools for the current year will be \$45,000; and, with the exception of a small annual grant by the Legislature of \$3,000, the whole of this large outlay for buildings and maintenance has been provided by an assessment on the ratepayers, who have most liberally sustained the exertions of the Board to give a sound, practical education to the youth of this city, in the firm belief that rational liberty and free institutions are best understood and appreciated through the influences of an educated and intelligent community.

"The instruction imparted in our schools is free from all sectarian character, and it is to this feature in our school system that we have to ascribe the great success which has attended our efforts in the cause of public education.

"We avail ourselves of this gratifying opportunity to offer for your Excellency's acceptance, in remembrance of your welcome visit to our Public Schools, this copy of the proceedings of the Board during the period of its existence, and, in conclusion, permit us to express our sincere and hearty good wishes for the welfare and happiness of your Excellency and Lady Dufferin.

"For and on behalf of the Board,

G. A. BARBER,

Secretary.

H. H. WRIGHT,

Chairman."

Dr. Wright handed to the Governor-General the address and the two volumes alluded to in it, which had been handsomely bound in purple morocco by Messrs. Rowse & Hutchinson.

His Excellency, in reply, said it gave him the very greatest pleasure to have an opportunity of paying that visit. It was quite true, as had been remarked in their addresses, that hitherto his attention had been rather turned towards those institutions which had been founded for the purpose of affording instruction in the higher branches of learning, but he could well understand with what pride and interest the citizens of Toronto must regard these and similar institutions under their care. Among the many cares which should occupy the Government of a country, none was more important than that which was concerned with the education which was provided for those classes whose children he saw around him. Perhaps among the many addresses which had been presented to him, all of them full of expressions of loyalty to the Crown, and equally fraught with kind wishes for his own personal happiness, he had received none which contained within so short a number of paragraphs so many pregnant facts or such a complete and satisfactory resume of good and useful work. It was extremely creditable to those who were immediately concerned with that school that a building so commodious, so admirably furnished with all the appli-

ances of education, should be provided for the children of the district. He could not but hope, when he looked at the intelligent faces of the young children before him, that already at the commencement of their lives they were able to appreciate the advantages which had been placed within their reach. It should be a matter of concern to all of them to make the best possible use of the means afforded them, for he could tell them, from his own experience, that they would probably never again have such precious opportunities of assuring their future destiny. By industry, by attention to their studies, and by close application to the tasks set before them, they would acquire those habits of diligence, and that discipline of the mental faculties, which could not fail, when hereafter they came to encounter the dangers, the temptations, and the trials of life, to stand them in good stead. They should remember, notwithstanding those advantages which, thanks to the paternal thoughtfulness and consideration of the Government, they possessed, that they must not on that account fancy that they were wiser than those who had gone before them, or that they should fail to pay to their elders, who might not have had the same advantages as themselves, that respect and deference which was their due. He concluded by asking the authorities to grant the children a holiday.

The members and officers of the board, and visitors present, together with Mr. S. McAllister, head master of the school, and Miss S. J. Hamilton, one of the teachers, were then presented to His Excellency by Dr. Wright, after which the senior boys read a selection from the reading-book. Lord Dufferin was next led into the galleries appropriated to the junior boys in charge of Miss Stokes and Mrs. Carey, and thence upstairs to the girls' school-room. Here Miss Boddy, head mistress, was in charge, assisted by Miss Gemmell. Miss Gunn, teacher of drawing for the western division of the city, was also present. Several of the girls read in turn a poetical selection, one of them, a little girl named Mary Berry, winning His Excellency's especial commendation for her admirable expression. Some good specimens of calligraphy and free-hand drawing were shown to and praised by His Excellency, who next visited the junior section, who were briefly questioned by their teacher, Miss S. Mackenzie, in arithmetic. His Excellency, in passing through the various rooms, had a kindly word for the children in each, and noticed approvingly some coloured children in the junior divisions. He heard the highest class of both boys and girls read. On leaving he called for the head master, to whom he expressed the pleasure his visit to the school had given him, and renewed an acquaintance with him begun in Ireland some years ago. The Governor-General and Mr. Coulson then left the building and re-entered the viceregal carriage, accompanied by Dr. Wright and Mr. McMurrich. The other members of the Reception Committee and the Board, the officers, and the representatives of the press, took their seats in other carriages, and the whole party drove by way of King-street to the recently-erected school building on Parliament-street, where they arrived at about 11.30. The rooms were all prettily decorated with evergreens, and the mottoes:—"Fear God; Honour the King," "Vivat Regina," "God save the Queen," and "Welcome, Lord Dufferin." His Excellency visited the different rooms in which the children were under instruction respectively from Mr. Doan, head master, in English history; Miss McCreight, head mistress, in fractions; and Miss Grey, teacher of the junior division, in the elements of arithmetic. The National Anthem was sung by every class as His Excellency entered. On leaving, he examined the external arrangements of the school, which appear to embrace the best modern improvements.

9. LORD DUFFERIN AT BISHOP STRACHAN'S SCHOOL.

On the 17th ult. His Excellency Lord Dufferin and Lady Dufferin, accompanied by Lient. Coulson, A.D.C. in waiting, paid a private visit of inspection to Wykeham Hall School. The Bishop of the Diocese, as President of the Council, together with the Rev. John Langtry, chaplain, the Rev. Dr. Davies, and other members of the board, received them, and they were conducted through the several class-rooms, which with the dormitories, were most tastefully decorated with wreaths composed of autumn-tinted leaves and mottoes of welcome. After a pleasing performance of instrumental music, the pupils assembled in the chapel, where the loyal hymn, "God save the Queen," was sung. Lord Dufferin expressed himself highly pleased with some French, German, and English readings given by the pupils. His Excellency, being requested to address a few words to the pupils, said that he should feel regret were he to depart without thanking them for the graceful manner in which they had received his visit. Having expressed his great interest in educational institutions, he alluded to the fact, of which he had been apprised, that there were several American young ladies in the school, and said he was gratified that some who belonged to a

kindred nation, for which they all felt great regard, should have been attracted to a Canadian institution. With respect to one of the distinctive features of the school, His Excellency congratulated the assemblage on the admirable order and neatness everywhere observable; the happy faces before him also bearing testimony to the care and kindness with which the pupils were treated. Alluding to the religious training, Lord Dufferin said that while we should all feel the utmost charity and good-will to those who sincerely differed from us, we should steadfastly hold and maintain what we believed to be the truth; and as a member of the Episcopal Communion, he rejoiced to see so flourishing an institution, where the principles in which he believed were inculcated from earliest youth, and he had no doubt that the seed thus sown would continue to bear good fruit through successive generations, and prove a very great blessing to the whole community. His Excellency concluded his impressive and kindly address by requesting, amid the smiles and scarcely suppressed plaudits of the scholars, that a holiday be granted by the Lady Principal.

10. A VISIT TO ST. MICHAEL'S COLLEGE AND ST. JOSEPH'S.

On the 21st. ult. the vice-regal party drove to St. Michael's College, which was gay with evergreens, flags, and devices. The Union Jack floated over the gate and principal entrance to the college; over the eastern door was a green flag, and from another portion of the building the Stars and Stripes was suspended. The steps leading to the centre door were spanned by an arch of evergreens, bearing the words, "Welcome to St. Michael's," surmounting which was the legend, "*Per vias rectas*." The students of the college were assembled in front of the building, forming a line on each side of the carriage drive. The band of St. Michael's was stationed near the door, one of their number carrying a handsome green velvet banner, with St. Michael on one side, and on the other a harp and the words, "Philharmonic Society of St. Michael's," in gold. On their Excellencies' arrival at the College, the band played the National Anthem, and all present joined in hearty cheers. They were immediately conducted into a room adjoining the entrance, when His Grace, the Archbishop, introduced to the Governor-General the Very Rev. the Superior, who, in turn, presented the following members of the College Faculty: Rev. Fathers Frachon, Chalandard, Walsh, Mulcahy, Murray, Morrow, Brennan, and Ryan; Messrs. Gorman, Grand, Fitzgerald, Guinane, Moffitt, and Bradley; and Drs. Philbrick and Cassidy, medical advisers to the College. Archbishop Lynch presented the Very Rev. Vicar-General Jamot, Very Rev. Dean Proulx, Ven. Archdeacon Northgraves, Rev. Fathers Laurent and Lawlor, Messrs. Robertson, Foy, Murray, and Warmoll. Lord and Lady Dufferin were then led to the study hall, which was appropriately decorated for the occasion. A carpeted dais occupied the east end of the room, and contained chairs for their Excellencies, who were supported on one hand by the Archbishop and on the other by Vicar-General Jamot. On the entrance of the procession, the band struck up "The Harp that once through Tara's Halls." Their Excellencies being seated, the Very Rev. the Superior advanced to the foot of the dais, and read the following address:—

"May it please your Excellency,

"We the Superior, Professors, and Students of St. Michael's College, beg leave to present ourselves before your Excellency to offer a hearty and dutiful welcome to your Excellency and to the Countess of Dufferin, on the occasion of this distinguished visit to our house. Your Excellency will be glad to learn that St. Michael's College is, despite many adverse circumstances, happily carrying into effect the object of its establishment in the Dominion. It has prepared, wholly or in part, many able and zealous priests to minister to the spiritual necessities of the members of our communion; it has sent from its halls into the learned professions gentlemen to whose standing in their respective spheres it points with a feeling of proud satisfaction; and it has distributed among the other walks of life citizens whose loyal regard to the best interests of our country encourages us to indulge the hope that the usefulness of our institution may daily become more and more extended, and its influence for good keep pace with the growth of our rising country.

"We rejoice that, through Your Excellency's condescension, we are to-day enabled to give voice, in the presence of Her Majesty's representative, to our unflinching devotion to our Queen and country; and we gladly take advantage of this auspicious moment to signify our respectful deference to Your Excellency, and the noble lady who so gracefully shares with Your Excellency the honours of the vice-regal throne.

"(Signed), C. VINCENT,
"Superior.

"TORONTO, Oct. 21st, 1872."

His Excellency, in reply, said it gave him the greatest pleasure to have the opportunity of paying this visit. He was well aware of the excellent work which they were prosecuting, and of the success which had attended their labours. Connected, as he was, with a country which annually sent forth from its shores thousands of Catholic emigrants to this country, it was a matter of very great satisfaction to him to think that there was, in one of the principal localities to which they naturally resorted, an institution which not only provided a means of instruction for their children, but furnished forth those ministers of religion, upon whose beneficent operations so much of their spiritual as well as their temporal happiness depended. (Applause.) As the representative of Her Most Gracious Majesty, he received with thanks those expressions of loyalty which they had addressed to her throne and her person, and he felt that he could not do any official act which would be more consonant to Her Majesty's own feelings, or more in accordance with those high duties she had been called by God's Providence to perform, than when he testified in her behalf to the interest which she took in everything which concerned the welfare of her Catholic subjects. (Applause.) Happily, in this country, those religious animosities, to which from his infancy he had been accustomed in his own, seemed to have been considerably assuaged, and, in every city of the Dominion through which he had passed, he had met fresh instances of the harmony and the liberality of sentiment which all the religious denominations of Canada maintained towards each other, and the common feeling of loyalty by which they were bound to the Throne. He thanked them on behalf of Lady Dufferin, for the kind way in which they had included her in the welcome they had extended to himself. (Applause.) In return, he wished that they might enjoy every prosperity, and that the sphere of their labours might be continually increased. (Loud applause.)

Archbishop Lynch then made a few remarks. He observed that the motto of the Governor-General should be the motto of every good and honourable boy in that College, and pointed out that the words which composed it—"Per vias rectas," were to be found in one of the antiphons of the Church. He requested His Excellency to be kind enough to grant the boys a holiday, and to allow them as a memorial of his visit, to place His Excellency's shield and motto over the gates of the building.

Lord Dufferin said that, encouraged by the words of His Grace the Archbishop, he had great pleasure in asking the authorities of the College to grant the boys a holiday. He esteemed it as a peculiar compliment, not only to himself, but also to the remote ancestor who originally adopted the motto to which His Grace had referred, that they should desire to place that legend above their gates. He was certain that, if the boys, following the advice of the Archbishop, would allow that principle to direct their life, they would never have cause to regret it, either here or hereafter. (Applause.)

His Excellency then conversed with some of the boys, a large number of whom came from the United States; and after hearty cheers had been given for the Queen, the Governor-General and Lady Dufferin, the vice-regal party left the hall. As they drove off enthusiastic cheers were raised by all assembled. The next visit was paid to St. Joseph's Home, a charming building. At the door their Excellencies, who were still accompanied by the Archbishop and Father Jamot, were received by the Rev. Mother Bernard, and the sisters of St. Joseph, who were presented to them by His Grace. After some minutes passed in conversation in one of the prettily arranged rooms of the Home, Lord and Lady Dufferin were conducted into a large parlour, where the pupils of the sisters were assembled. A large number of the young ladies, who looked charming in their white dresses, were ranged in a triple row down one side of the room, others sat with the Sisters at the farther end, where several of the junior pupils were conspicuous in blue dresses. The walls were tastefully decorated with English and Irish flags, and with others bearing the inscriptions "Long Live Lord Dufferin," "Long live Lady Dufferin," "Erin Go Bragh," "October 21st, 1872," &c. Facing the door were the words, "Welcome, Lord Dufferin;" with His Excellency's motto—"Per vias rectas." As their Excellencies entered the whole of the pupils rose, and with a pianoforte accompaniment, sang the following hymn of welcome:—

"Hail to Lord Dufferin,
Hibernia's noble son,
A thousand, thousand welcomes
To our dear St. Joseph's Home.

"Our prayers we'll daily offer
To our Heavenly Father's Throne,
That all the gifts of joy and peace
May round his path be strewn.

"Hail to Lady Dufferin,
Erin's daughter fair,
A thousand, thousand welcomes
To our dear St. Joseph's Home."

Three young ladies—Miss Katie Kidd, Miss Jordan, and Miss Small—then advanced to the foot of the dais, and the first-named, with admirable intonation, read the following address:—

"May it please your Excellencies:

"To receive the expression of our most cordial welcome to our dear 'Convent of St. Joseph.'

"When we heard of the enthusiastic reception your Excellencies everywhere met with since your arrival in our country, we scarcely expected that we would have the honour of offering the same heartfelt greeting in our secluded home: but with the condescension belonging to true nobility, your Excellencies have offered us an opportunity of presenting our good wishes in person.

"To the noble Countess Dufferin we offer a most affectionate welcome. Your Excellency has ever been a bright ornament of our sex in your own fair land, and we are proud that you have been placed as its guiding star in ours.

"We take the opportunity of this gracious visit to express to your Excellencies the respect and love we feel towards our Sovereign Lady the Queen, who is endeared to us by her many amiable qualities, and now more than ever in placing one of Erin's noble sons as her representative in Canada.

"We pray that your Excellencies may enjoy a long and prosperous life, rich in the love and blessings of the people.

"THE PUPILS OF ST. JOSEPH'S.

"Toronto, Oct. 21st, 1872."

Miss Jordan and Miss Small presented bouquets to Lord and Lady Dufferin, and the interesting trio retired.

Miss Payne then sang, with beautiful expression, the exquisite ballad composed by Lady Dufferin, mother of the present Earl—"I'm sitting on the stile, Mary."

His Excellency, on the conclusion of the song, rose and expressed his warmest thanks for the very kind reception which they had extended to Lady Dufferin and himself. Nothing could have been more agreeable to their feelings than the pleasant manner in which they had been welcomed, as testified in the charming little song which had greeted them, and still more in giving him the pleasure of listening to his mother's song, so admirably sung. He was informed that the sisters of that community not only were occupied with the education of the young ladies whom he saw before him, but that they went forth every day to the different educational establishments in the city, and there performed that excellent work to which they had so nobly devoted themselves. It was a pleasure to him to testify his deep sympathy with them in the discharge of their laborious duties, and his earnest hopes that they might long live to see the fruit of their labours in the growing perfections of those ladies, over whom they exercised so wholesome and beneficial a superintendence. He complimented them upon the appearance of their pupils, and upon the wise and feeling manner in which the address was read. He thanked them as the representative of Her Majesty, for their expressions of loyalty, and could assure those young ladies, that it was a matter of solicitude to the Queen that the education which they received in this country should be worthy of its high destinies and of the future which lay before them. In conclusion he ventured to ask the authorities of the institution to grant a holiday to their charming pupils.

Miss Payne again took a seat at the piano, and, in concert with Miss McFarlane, sang "The last Rose of Summer," with touching expression. Several of the junior pupils advanced to the dais, and one of them, a pretty little girl about seven years of age, named Minnie Paddon, surprised and delighted their Excellencies by addressing Lady Dufferin in a firm and distinct voice to the following effect:—

"Dear Lady Dufferin, the little children of St. Joseph's wish to present you with an address, as well as the young ladies. Sister says that flowers have a language, and we are sure that you understand it, because you are a very wise lady; so we have brought these pretty flowers to say everything beautiful for us, who do not know how to say anything but—thank you for your kind visit."

Miss Paddon then presented her bouquet to Her Excellency, who shook hands with her. Lord Dufferin also took the little creature by the hand, kissed her, and asked her several questions. His Excellency then walked round the room, and conversed with most of the young ladies present, after which all rose and sang "God save the Queen," and the viceregal party departed.

11. VISIT TO LORETTO LADIES' SCHOOL AND DE LA SALLE.

In the afternoon of the 23rd, Lord and Lady Dufferin visited

three Roman Catholic institutions. The first was Loretto Abbey, where somewhat extensive preparations had been made to give their Excellencies a fitting reception. The whole of the arrangements were characterised by the good taste and high tone which distinguish the ladies who have charge of this aristocratic seminary. A number of flags floated above the trees outside the building, and inside mottoes and decorations of every kind abounded. Among the legends which found places on the walls of the rooms and passages, were, "Long Live Lord Dufferin," "Welcome Lady Dufferin," "Per vias rectas," "Welcome to Loretto." These were surrounded by tasteful designs in Autumn leaves and evergreens, and gave a charming appearance to the localities in which they were situated. The prettiest part of the picture, however, was that formed by the residents themselves. The young ladies, of all ages, from budding womanhood down to infancy, attired in elegant costumes of white and blue, contrasting and relieved by the sober community dress, in which the Ladies of Loretto mixed in the throng, presented an appearance which was afterwards aptly likened by His Excellency to a bed of flowers in the sunshine. The order and good breeding manifested by these young ladies bore testimony to the admirable training they had received in the institution. The pupils were congregated in the drawing-room overlooking the grounds, and in the ante-room a large number of ladies from all parts of the city were assembled. At the door, a Archbishop's "Guarda Nobile" of little boys, wearing sashes, on which was inscribed the motto "Per vias rectas," and carrying crosses from which bannerets depended, awaited the arrival of the vice-regal party. Their Excellencies drove up to the door at three o'clock, followed by Col. Fletcher on horseback. They were received by His Grace, who presented to them the Rev. Mother Teresa, superior of the whole order in Canada; the Rev. Mother Ignatia, superior of the Toronto community; and the chief reverend clergy of the city. They were at once conducted to the upper end of the drawing-room, while the young ladies sang the national anthem. The Archbishop presented Mr. Moylan, Inspector of the Provincial Penitentiary, Dr. Thorburn, the Physician, and Mr. Lynch, of Brampton, to the Earl and Countess, and a hymn of welcome, composed for the occasion, was then sung by the pupils, Miss McDougall taking the solo part. Miss McDougall, on the conclusion of the song, advanced and read with admirable expression the following address:—

"May it please Your Excellencies,

"We, the community and pupils of Loretto Abbey, hail with exquisite delight the presence of Your Excellency and the Countess of Dufferin, and bid you ten thousand welcomes from the bottom of our young hearts, and beg to express to Your Excellency a deep sense of gratitude for this most gracious visit. We feel especially delighted to find Her Excellency Lady Dufferin amongst us. Her graceful dignity and affability entwined in her many virtues we look to as a beautiful model for us.

"Our studies are numerous, our rules gently strict, to correct—the good Sisters tell us—the frivolity and restlessness of youth, and to form habits of careful thought and prudent reserve. We hope to profit by those lessons, and to become in society good women as we are good children now.

"We are encouraged by the amiability and kind condescension of Your Excellency to charge you with a humble message to Her Most Gracious Majesty the Queen, to tell her how much we esteem, admire, and love her, and to thank her for the choice she has always made of Governors, but especially for the last, the best and kindest of all."

Miss McDougall handed the address to Lord Dufferin, and several of the smallest children in the school presented bouquets to their Excellencies, the Archbishop, Col. Fletcher, and one or two of the others. Miss McDougall then sang "The Irish Emigrant's Farewell," in a clear, sweet soprano voice, and with an expression suited to the pathos of the song, which evidently affected His Excellency, by whose mother this touching ballad was composed. A part song followed, and His Grace, the Archbishop of Toronto, then rose and, addressing the Governor-General, said:—"Your Excellency, I am sure, must have remarked an air of simple but noble dignity of manners in this institution. This distinguished trait took its rise in the noblest blood of England. The kind visit of your Excellency, the representative of Her Majesty, our beloved Queen, to this institution, forms a graceful historic parallax, if I may use the expression, as the history of this order or community will show. In the seventeenth century, during the great troubles and religious convulsions and persecutions, a number of English Catholic ladies fled from their native land, to practise in peace and seclusion the holy religion of their conscience. The Duke of Bavaria and Prince Elector of the sacred Roman Empire, Maximilian Emmanuel, kindly received those noble ladies and assigned to them one of his palaces near Munich, with ample revenues. There those ladies consoled themselves in their exile by prayer,

reading the Holy Scriptures, and by meditation on the Eternal Kingdom of never ending joys. They afterwards devoted themselves to the education of young ladies of English birth to be found on the continent, and the natives of Bavaria were proud to rank themselves among the pupils of the Dames Anglaises, as they were then called and officially known, and known yet in Bavaria and other parts of Germany where they have houses. From Munich, the community increasing, they established houses in Augsburg and Burghausen, under the direction of the Bishops of those places, in 1683. They returned to England in face of the penal laws in 1686, and lived as private community, not being as yet approved of by the Holy See as a regular religious order. They established themselves in one of their ancestral castles near York. This House became distinguished and numerous. The Order was finally established and rules given to them by His Holiness Pope Clement XI. in the year 1703. The Archbishop of Dublin, Dr. Murray, in conjunction with Miss Ball, sister of Judge Ball, established a house of the Order near Dublin, in Rathfarnham. Fourteen houses in different parts of Ireland flourish, and they are enabled to send colonies of the Sisterhood to different parts of the British Empire, even to the scorching lands of Hindostan. The first Bishop of Toronto, Dr. Power, in 1846, found Irish nuns willing to come to Canada to impart a first-class education to the young ladies. Here the usual success attended their labours; five houses are already doing the noble and most useful work of education. Neither are poor schools neglected, for the Sisters do not consider their labours fully blessed without them. Those ladies have followed the success of the English arms by the divine triumphs of the Cross. They may be called now "Dames Irlandaises" inasmuch as the Irish Catholic element largely fills their community. The Irish usurp such positions.

Miss Lottie Wall, a junior pupil, then sang, in a most charming manner, "I'd play the Enchanter's part," receiving on its conclusion the compliments of their Excellencies and the Archbishop. Miss McDougall and Miss Hayter of Boston, followed with a duet.

His Excellency then rose and addressed the pupils in the following words:—Young Ladies,—I can assure you that I find it very difficult, indeed, to discover words which will express, with sufficient earnestness, my deep sense of the kindness with which you have received me to-day. When I look around and consider all the preparations which have been made for my welcome, I scarcely know to which to refer with the greatest admiration. The young ladies themselves, ranged like a bed of flowers in the sunshine of a spring tide, the beautiful music which has been sung with such taste, delicacy, and feeling, more especially the song which was written by my mother, to which, naturally, I can never listen without deep emotion—all have combined to make an impression upon me which will never fade away. I have been extremely interested in learning, from the observations which fell from His Grace the Archbishop, the origin of this community, and I am proud to think it was from Irish shores it set forth to this country upon its beneficent mission. I congratulate you heartily, young ladies, upon the fortunate circumstance which has placed you within these walls, and I am sure, from all I have heard and witnessed of the noble work in which the sisters are engaged, that the benefits which will be spread abroad through the Dominion cannot be overestimated. In speaking of a certain lady, an English writer, famous in his time, concluded a brilliant passage in her honour by observing that "to know her was itself a liberal education." I would venture to recommend you to lay this observation to heart, and to remember that the character and conduct of the women of a country do more, perhaps, than anything else to elevate the tone of feeling amongst its inhabitants, to inspire them with high thoughts and noble endeavours, and with that spirit of chivalry which raises our nature far above its ordinary level. When, however, these sentiments, are still further illuminated by a spirit of devotion, and directed by the counsels of religion, we have just cause to hope that the career of such a nation will receive the blessing of God, and will prove a benefit to the world at large. I wish more especially to express to the sisters themselves my deep and hearty sympathy with them in their lives of retirement and self-sacrifice, and I cannot imagine that there can be a greater consolation to their own minds, or that a more perfect tribute could be paid to the utility and high character of their work than the fact that the pupils placed under their guardianship, and the influence of their saintly lives, should include the flower of the Catholic maidenhood of Toronto. I can only say, in conclusion, that, on my own behalf, as well as on behalf of the Countess of Dufferin, I thank you again and again, and that I wish to each one of you individually, and to the community collectively, all the happiness that this world can give. I make no doubt that, whatever may be the dangers, the anxieties, the trials, and temptations which, in your future lives, you will have to encounter—and there is none of

us whose life is entirely exempt from them—the instruction and the example which you have had here will do as much as any earthly thing can do to sustain and comfort you, and prove, to the end of your lives, a delightful reminiscence. (Applause.)

Their Excellencies walked among the pupils, and conversed with a large number of them. Archbishop Lynch then announced that their Excellencies had consented to hold a levee. The pupils of the institution and visitors were accordingly presented. Lord and Lady Dufferin then went into an adjoining room, where the ladies of the community were presented to them; and, after a short walk in the grounds, they left the Abbey.

Their Excellencies then visited the De La Salle Institute of the Brothers of the Christian Schools, where they were again received by the Archbishop, who presented to them Brother Arnold, Director of the Institute.

The steps and hall were carpeted, and ornamented with devices and mottoes, and the windows were illuminated, darkness having set in. Brother Arnold presented the other Brothers to Their Excellencies, and Archbishop Lynch introduced the Very Rev. Dean Proulx, Ven. Archdeacon Northgraves, Messrs. John O'Donohoe, Murray, Duffy, Ketz, Baigent (Professor of Drawing), Petley, and Mead.

The band of the Institute played the National Anthem, as the vice-regal party entered the hall, where the boys of the school and several visitors were congregated. Three boys advanced to the foot of the platform on which their Excellencies were seated, and one of them read the following address:—

"May it please your Excellency:

"We, the Community and Pupils of the De La Salle Institute, beg leave to welcome your Excellency and the Countess of Dufferin, and to tender to your Excellencies our deep gratitude for the honour you have vouchsafed to confer on us by this most gracious visit.

"This Institute was erected only twelve months ago, yet, under the blessing of a kind Providence, great success has already attended the constant care and labour of the Brothers, and the right good will of the students.

"Your Excellency and noble Countess having been born in that 'Green Isle of the Ocean' from which our parents came, and by right of which we rejoice to be called the sons of Irishmen, will appreciate the truth of our declaration that we are attached to Ireland, its green hills and its valleys.

"Young as we are in learning, and in the knowledge of the world and its politics, yet, we rejoice to have heard from our parents, a few weeks ago, that your Excellency was a noble landlord, and an indefatigable and warm friend to Ireland.

"We desire to say, as young Canadians, that we love Canada, and will ever deem it our duty to honour Her Most Gracious Majesty, whose just sway now extends from the Atlantic to the Pacific.

"For your Excellency and Lady Dufferin we have the most profound respect, and beg of you to accept the best wishes of the pupils of this Institute."

The two supporters of the lad who read the address presented Lord and Lady Dufferin with bouquets of flowers.

His Excellency, addressing his young friends and the brethren connected with the institution, begged to return them, on his own behalf, and on behalf of Her Excellency, their best thanks for the kind welcome they had accorded them. It gave him much pleasure to find himself among them, and to observe, from the general appearance of the room, and of its inmates, how flourishing and satisfactory was the condition of that school. He accepted with very great pleasure those references which they had made to their common country, whose memory he was happy to think they still cherished; as well as those expressions of loyalty to the Crown which they had addressed to him as the representative of Her Majesty. He was perfectly convinced that, among no section of the inhabitants of the Dominion, had Her Majesty more faithful, more useful, more loyal, or more gifted subjects than among those who had the honour of claiming an Irish descent. (Applause.) Already the annals of Canada and the roll of her statesmen had been illuminated by those who claimed Ireland as the land of their birth, and, thanks to the education which was communicated in that and similar establishments, he was certain that the contribution which the descendants of Irishmen would in future make to the glories of Canada, would in future bear comparison with that of any of the other races who combined to make up its noble population. (Applause.) In conclusion, he asked the authorities to be good enough to grant the boys a holiday. (Loud applause.)

A little boy then sang "Ring the Bell" very nicely, followed by a schoolfellow who gave most effectively "The Harp that once." Miss Walker played the pianoforte accompaniment.

Archbishop Lynch gave His Excellency the following brief account of the history and statistics of the Institute :—

This Institute was founded by the Venerable Jean Baptiste de la Salle, Canon of the Metropolitan Church of Rheims, in France, in the year 1680, for the education of youth. It was approved by His Holiness, Pope Benedict XIII., in 1725, and became entitled to all the privileges of a religious order. The Order now had educational establishments in all parts of the globe, principally in France, Italy, England, Canada, and the United States. In the year 1837 four of its members left France for Canada, and opened a school in Montreal, with three brothers and 198 pupils. Shortly afterwards they opened houses in Baltimore, New York, St. Louis, New Orleans, Philadelphia, and several other important places. At present the most approximate statistics of Brothers in the Dominion was 275. They had twenty-seven establishments, attended by upwards of 15,000 pupils. In the United States they numbered 600 Brothers, having sixty houses, attended by upwards of 40,000 pupils. The Institute numbered more than 11,000 Brothers, having at least 635,000 pupils to educate. Besides instructing the children of the labouring class, they also conducted Academies, Industrial Schools, Protectories, Normal Schools, and several colleges endowed with University privileges, both in Europe and America. Their Superior-General, Brother Philippe, who was now more than 80 years of age, 63 of which had been spent in the Institute, resided at Paris, in France. During the late war which took place between France and Prussia, the Brothers nobly distinguished themselves by offering their services for the aid of the sick and wounded, and received as a token of their generosity, the medal of honour from the President. The prize of the City of Boston was awarded to them for their patriotism and devotedness. In this city all the schools were conducted by the Brothers, who resided at the De Salle Institute. They numbered 18 Brothers and 750 pupils. They also conducted a Commercial Academy known as the De la Salle Institute, having 60 boarders and 120 day scholars.

After a selection by the band, the vice-regal party left the hall, those assembled giving three hearty cheers for the Queen, three for the Earl and Countess, and three more for the County Down. Their Excellencies spent two hours and a half in a most agreeable manner, and got through a long programme in a short time.

12. VISIT TO MRS. STUBBS' AND TO MISS DUPONT'S SCHOOLS.

On the 23rd ult. His Excellency, attended by Lieut. Coulson, A.D.C., paid a private visit to the educational establishment kept by Mrs. Stubbs, Grange Road, and inspected the working thereof. He expressed himself much pleased with what he saw.

His Excellency then proceeded to the school of Miss Dupont, so well known as the late able directress of the Bishop Strachan School, on John-street. He was received by Miss Dupont, Dr. Hodder, and Mr. Justice Boyd. Having been introduced to the teaching staff, he proceeded to the school-room. Upon His Excellency entering the room the pupils sang "God Save the Queen," accompanied by Mr. Carter. The following verse was added to those usually sung :

Far from our native land,
Firmly we'll take our stand,
By England's Queen.
Mid woods and forests green,
Britons undaunted we,
Sing with true loyalty,
God save the Queen !

Miss Hodder presented His Excellency with a copy of this verse. Miss E. Vankoughnet then read in a most pleasing manner the following address :—

May it Please Your Excellency :

"We, the undersigned pupils of Miss Dupont's School, beg permission to offer our thanks for the honour conferred upon us by the visit of your Excellency and the Countess of Dufferin, and the interest you are graciously pleased to evince in our education.

"May we be permitted to state that our school is only in its first term. And while we feel stimulated to hopeful exertion in the pursuit of knowledge by the condescending notice of your Excellency and the Countess of Dufferin, we crave the favour of being allowed to ask you to give a name to our school, in memory of this happy day. "Signed, Katie Gilmour, Minnie Cameron, Hattie Van Allen, and Edith Vankoughnet, in behalf of the school."

To which His Excellency was pleased, in reply to say that his hearers might not be aware that an audience of young ladies was more trying than they perhaps thought, and that he felt always somewhat embarrassed in their presence. He remarked that they stated that their school was in its infancy, but he was pleased to see so many intelligent and pretty faces, and the well known reputation of Miss

Dupont as a teacher was of itself an assurance to the people of Toronto of the success of any institution over which she presided. A class was then examined in Roman history by the Rev. A. J. Broughall, His Excellency himself putting several questions. He requested that one of the junior pupils should read, and selected a piece of poetry which was read by Miss Mary Sheppard, who was complimented by His Excellency. A song was then sung by Miss Vickers, and an instrumental duet performed by Miss Katie Gilmour and Miss Minnie Cameron. His Excellency desired that these young ladies might be brought forward, and shook hands with them. This closed the proceedings and His Excellency left.

13. SUNDAY SCHOOLS IN CANADA.

A Deputation from the Sabbath School Association of Canada having waited on the Governor-General at Holland House, on the 26th ult., the Rev. W. Millard read and presented the following address :—

"May it please Your Excellency,—"

"We, the officers of the Sabbath School Association of Canada, appear before you by the very heart and unanimous resolution of the ministers of the gospel and Sabbath school delegates of the Evangelical denominations, lately assembled in convention from all parts of the Provinces of Ontario and Quebec, in the city of Montreal.

"We sincerely unite with the many who have already had the honour of addressing you, in the assurance of our loyalty to Her Most Gracious Majesty Queen Victoria.

"Heartily do we welcome you among us, as the representative of our good and noble Queen, and as the Governor-General of this highly-favoured and prosperous Dominion ; and we devoutly pray that your stay in Canada and your government may be distinguished by much happiness to you and Lady Dufferin, and for the best advancement of this Dominion.

"We thankfully recognize in your Excellency the patron of art and literature. Your manifested interest in the education of the youth of our land, and your expressions of gratification with the state of our public schools and colleges of learning are truly grateful to us.

"We cannot but be assured, also, that you are deeply interested in the most important—the religious instruction and training of Canada's sons and daughters.

"We, therefore hail your advent in your exalted station at this time, when, in addition to the abundant evidences of vigorous growth in mental and moral progress, as well as in material wealth, great efforts are being made to reach all classes of the community with a saving knowledge of our Lord and Saviour Jesus Christ.

"The Association which it is our privilege to represent is composed of members of all the Evangelical Churches.

"It was organized in the year 1865, under a deep conviction of the importance of mutual counsel in the great work of the religious training of the young. The delegates then assembled resolved to associate themselves for that purpose on the doctrinal basis of the Evangelical Alliance, and under the designation of the "Sabbath School Association of Canada."

"Since its organization annual conventions of the Provinces of Ontario and Quebec (the Canada at the time of its organization) have been held, attended by representatives of Sabbath schools varying in number from three to eight hundred. Besides these general conventions the greater part of the counties of Ontario, and some in Quebec, have held similar meetings, and have, by the influence and aid of the Provincial Association, established Sabbath School Associations. The county Associations have instituted local Associations in the townships. City and town Associations have been set up and local Institutes have been held.

"At the annual meetings of this Association, and at the county and local conventions, there have been addresses on the Sabbath School institution and work ; the proper management of Sabbath schools ; help for teachers ; the best methods of teaching the several grades of scholars ; together with specimens of class teaching, and illustrations of object lessons, and free discussion on all the exercises invited.

"With grateful acknowledgment to the God of all grace, we are enabled to say that the efforts of this Association have been crowned with success. Sabbath schools have multiplied beyond any previous ratio ; there is also a very marked improvement in the character of these "Nurseries of the Church" system, preparation of lessons and intelligent teaching have followed—and increasingly the best efforts of the churches are being put forth in this branch of Christian work.

"We are encouraged by the prospect that by these Bible Schools the youth of our land will be so trained in that knowledge which

leads to life eternal, that Canada will, through God's grace, be eminent for that "righteousness that exalteth a nation"—not only loyal to our rightful sovereign, Queen Victoria (may God long spare her) and good citizens, but also the faithful subjects of the King of Kings, and devoted members of the Christian Church.

"We desire that your Excellency may be long spared as Her Majesty's representative, that Lady Dufferin, yourself and children may be blessed with health and happiness—and that, together, finally, you may be partakers of the glories of that Kingdom that shall not pass away.

"On behalf of the Sabbath School Association of Canada.

"(Signed) WM. BOND, LL.D.,
"WILLIAM MILLARD, Dean of Montreal,
"General Secretary. President."

His Excellency, in reply, said:—Gentlemen,—I have to thank you very heartily for the kind address with which you have presented me. I am well aware that, in a country like this, where there is no Established Church, and where the State does not recognize in any very marked degree a sectarian method of religious teaching, all the more obligation rests upon the various religious denominations to pay strict attention to the training of the young of their individual flocks. Although I have seen with very great pleasure the kindly feeling which prevails between the religious bodies into which the community is divided, and although I have taken every opportunity of expressing the extreme satisfaction with which I have regarded such a liberality of sentiment towards each other as prevails amongst them, I am nevertheless impressed with the absolute duty which rests upon each—especially upon those who, in accordance with my own convictions, belong to the Evangelical Church—to be very vigilant in vindicating the sacred principles which they have adopted, and in guarding the children committed to their care from being led astray into religious error. For this purpose, there is evidently no more efficient and practical instrumentality than that of Sabbath schools, and I rejoice to hear that, thanks to your exertions and under your guiding superintendence, the Sabbath schools of Canada are in so very flourishing a condition. I hope to-morrow, in company with Her Excellency Lady Dufferin, to have the pleasure of visiting one of those schools before morning service, and I shall then have a better opportunity than has yet been afforded me of observing the mode in which your instructions are imparted. I thank you very heartily for all those kind expressions personal to myself which are contained in your address, and it is indeed a great pleasure to find that everywhere in Canada, from one sea to the other, even in the midst of the remote districts which are only inhabited by the Indians, the efforts of so Christian a body as yourselves are conducted with such zeal and success.

The members of the deputation were then introduced to His Excellency, who engaged in conversation with them. The deputation then withdrew.

14. VISIT TO ST. JAMES' SUNDAY SCHOOL.

On Sunday morning, the 27th, their Excellencies the Governor-General and Countess of Dufferin visited the St. James' Cathedral-Sunday School. Mrs. Howland, who was attended by Capt. Curtis, was also present. Their Excellencies were received by the Very Rev. Dean Grasset and Mr. J. Gillespie, superintendent of the school, and first conducted to the infant class room up stairs. Their Excellencies were then conducted to the large school-room, where the pupils of the school with their teachers and others were assembled.

Miss Wright then sang the solo, "God save the Queen," the children and those present joining in. Miss Dixon presided at the organ.

His Excellency then came forward and said:—Although he did not feel at all fitted to occupy the place of a teacher, he was very glad of the opportunity of expressing the great satisfaction he felt in finding himself in that building. He understood it was the first time they had met there since the enlargement of the school, and he was sure it must be a matter of pride and gladness to every one—teachers and children—engaged in the good work to observe how it was progressing. Mr. Gillespie had no need to apologise for the absence of ornamentation, because it was not—as had been well observed by an old writer—its walls that made a city, but the men within them, so, in that instance, it was not the outward decorations, but the good work done under its roof, and the intelligent faces of the children who crowded the benches, that constituted the glory of a school-room. His Excellency expected to see a good number present, but he confessed his surprise to see how very large was the attendance. He was glad to see also that the staff of teachers was very large, and that such a number of ladies and gentlemen were good enough to devote their Sunday mornings to such a conscientious and profitable work. He trusted that the pupils

themselves would long retain a grateful recollection of the teaching imparted, and profit by the unspeakable advantages that Sunday after Sunday they were receiving. The best possible return that they could make was to retain in their memory the instruction they had been given, and endeavoured to put into practice the precepts they had been taught. His Excellency continued to say that he was very much pleased with the infant class which he had heard examined, and it appeared to him that the teachers in charge were very felicitous in making themselves understood by the little ones. It required a great power of sympathy. He was sure if he had had an opportunity of hearing the other children, he would have been equally well pleased; but he hoped at some future occasion when his stay would be longer and his time less occupied, to have that pleasure. He had observed with particular pleasure the kindly feeling existing between the different religious communities into which the population was divided. He feared that as the world was constituted there would always be difference of opinion on religious matters, but it was highly satisfactory to think that the Christian virtue of "charity" received such universal recognition. He would, however, be very sorry to think that this generous toleration proceeded from any laxity of opinion or indifference to principle. He trusted that while agreeing as far they conscientiously could in those truths which were held in common they would continue to be steadfast to those principles which were characteristic of the church to which they individually belonged. He spoke in no dogmatic spirit, but he himself believed that in the doctrine, and in the teaching of the Church of England, they would find the surest help to a holy and religious life. In conclusion, he begged to thank them for the marks of respect they had paid to his office, by the hearty manner in which they had joined in singing "God Save the Queen." It was his privilege to be a witness of the universal sentiment of loyalty which pervaded all the religious bodies in Canada, and he was glad to know how genuine it was in every Sunday School throughout the country. (Great applause.)

The children then sang several hymns under the leadership of Mr. Gillespie, after which the Rev. Dean Grasset closed with prayer.

15. THE GOVERNOR-GENERAL AND YOUNG MEN.

In reply to an address from the Young Men's Christian Association of Toronto, His Excellency said: "I am well assured of the excellent work in which you are at present engaged, and the efforts you are making for the future welfare of those coming to your shores without friends. They are naturally exposed to temptations, and under such circumstances, the work in which you are engaged is well calculated to be of the greatest service, particularly in a large city like Toronto. Any one who remembers his own youth can understand this, and the advantages to be derived from having the helping hand held out to you. You may thereby get new direction of thought and endeavours for future distinction. I am quite sure there must be many inhabitants of this city who can trace their prosperity to such a source. I assure you very sincerely that I wish you every success in the beneficent work in which you are engaged. It is a great consolation to come into connection with a body of men so deeply impressed with a sense of their duty towards their fellow men, and so dependent on the inspirations of Providence for success."

To the young men of the Church of the Redeemer, who also presented an address to the Governor-General, Lord Dufferin said:—"As long as I remain in Canada it will be my duty, as it will be my greatest pleasure to associate myself with every good work to which it may be possible for me to give my countenance and assistance; in doing so I feel that I am best discharging the duties of my high station, and fulfilling the desires of Her Most Gracious Majesty. I am very glad to think that the objects on which you are engaged should have been promoted by so excellent an organization as that of the Young Men's Christian Association. I am aware of its admirable organization and its ability. In England, on more than one occasion I have had opportunities of experiencing the many benefits which similar associations confer upon the community at large. It has been a source of very great pleasure and satisfaction to observe that all the different religious denominations in this country, and all the associations of various descriptions seem to be content, each in its separate sphere, to work out those objects which are calculated to promote the general good of the country at large, without undue rivalry, without acrimony, and without jealousy, bound together by a sterling patriotism which cannot fail to command in future years, for this great Dominion, that prosperity and happiness to which I trust it may be destined."

In his replies to the addresses from the Hospital Trustees and other Benevolent Institutions in Toronto, his Excellency was equally happy in his remarks.

I. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for AUGUST, 1872.

OBSERVERS:—*Pembroke*—R. G. Scott, Esq., M.A.; *Cornwall*—James Smith, Esq., A.M.; *Barrick*—H. B. Spotton, Esq., M.A.; *Peterborough*—J. B. Dixon, Esq., M.A.; *Bellefleur*—A. Burdon, Esq.; *Goderich*—Hugh J. Strang, Esq., B.A.; *Stratford*—C. J. Macgregor, Esq., M.A.; *Hamilton*—J. M. Buchanan, Esq., M.A.; *Simcoe*—Dion C. Sullivan, Esq., LL.B.; *Windsor*—J. Johnston, Esq., B.A.

STATION.	North Latitude.	West Longitude.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.				TEMPERATURE OF THE AIR				TENSION OF VAPOUR			
			MONTHLY MEANS.		HIGHEST.	LOWEST.	RANGE.	MONTHLY MEANS.		DAILY RANGE.	HIGHEST.	LOWEST.	MONTHLY RANGE.	WARM-EST DAY.
			7 A.M.	9 P.M.			Greatest in 24 hours.	7 A.M.	9 P.M.					
Pembroke	45° 50' 77" 10	80° 10' 10" 10	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Cornwall	45° 0' 74° 50' 137	175° 29' 76° 51' 137	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Barrick	44° 25' 79° 45' 59	77° 29' 76° 51' 137	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Peterborough	44° 20' 78° 25' 10	80° 10' 10" 10	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Bellefleur	44° 10' 77° 52' 72	80° 10' 10" 10	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Goderich	43° 45' 81° 43' 43	77° 29' 76° 51' 137	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Stratford	43° 25' 80° 38' 43	80° 10' 10" 10	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Hamilton	43° 12' 79° 50' 90	82° 20' 76° 51' 137	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Simcoe	42° 51' 80° 14' 150	77° 29' 76° 51' 137	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4
Windsor	42° 20' 83° 00' 10	80° 10' 10" 10	29.225	29.232	29.232	29.232	0.007	70.1	78.3	71.2	73.2	68.7	59.3	24.4

Approximation. d On Lake Simcoe. e Near Lake Ontario on Bay of Quinte. f On St. Lawrence. g On Lake Huron. h On Lake Ontario. i On the Ottawa River. j Close to Lake Erie. m On the Detroit River. n Inland Towns.

STATION.	HUMIDITY OF AIR.	WINDS. NUMBER OF OBSERVATIONS.				ESTIMATED VELOCITY OF WIND.				AMOUNT OF CLOUDINESS.				RAIN.				SNOW.				AURORAS.			
		SURFACE CURRENT.		MOTION OF CLOUDS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.	
		7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.
Pembroke	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97
Cornwall	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98
Barrick	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Peterborough	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Bellefleur	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Goderich	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Stratford	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Hamilton	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Simcoe	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Windsor	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99

Where the clouds have contrary motions, the higher current is entered here.

Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Pembroke.—Lightning and thunder with rain, 2nd, 8th, 15th. Rain, 10th, 21st, 22nd. Wind-storm, 22nd. Fog, 19th, 29th. Rain, 2nd, 3rd, 8th, 10th, 12th, 14th, 19th, 22nd, 27th, 30th, 31st.
Cornwall.—On 9th, four meteors E. direction N—S. 16th, solar halo. 20th, meteor S.E., direction N—S. 22nd, meteor S., direction N—S. 28th, meteor E., direction N—S. Lightning on 12th, 20th. Lightning with rain, 29th. Lightning and thunder with rain, 2nd, 8th, 10th, 21st, 22nd. Wind-storm, 22nd. Fog, 19th, 29th. Rain, 2nd, 3rd, 8th, 10th, 12th, 14th, 19th, 22nd, 27th, 30th, 31st.
Barrick.—Lightning and thunder with rain, 21st. Lightning, 9th, 14th, 21st. Thunder with rain, 29th. Wind-storm, 22nd, 29th, 30th, 31st. Rain, 1st, 2nd, 12th, 14th, 18th, 19th, 21st, 24th, 26th, 29th, 30th. Month very dry. Grass nearly burned up. Many wells dry.
Peterborough.—On 3rd, magnificent Aurora: streamers from horizon in every direction, meeting in zenith. 10th, at Brockville, shooting stars observed about 2 a.m., direction N—S. and S—N. Lightning, 9th, 14th, 21st. Thunder with rain, 29th. Wind-storm, 22nd, 29th, 30th, 31st. Rain, 1st, 2nd, 12th, 14th, 18th, 19th, 21st, 24th, 26th, 29th, 30th. Month very dry. Grass nearly burned up. Many wells dry.

BELLEVILLE.—On 3rd, brilliant Aurora, Class I., between 8 and 11 p.m., at times the whole sky illuminated with surpassing splendor, streamers in tremulous motion. 8th, from 8 p.m. till after midnight, a similar display. Lightning and thunder with rain, 2nd. Thunder, 21st. Wind-storm, 30th. Rain, 2nd, 10th, 13th, 27th, 29th, 30th, 31st. Very high temperature during month, except last two days. Barometer steady. Exceedingly dry.

GODERICH.—Lightning, 6th. Lightning and thunder with rain, 1st, 5th, 9th, 29, 30th. Rain, 1st, 4th, 5th, 7th, 9th, 10th, 13th, 14th, 17th, 20th, 22nd, 26th, 29th. Very heavy storm of wind and rain arose in the afternoon of the 29th, from the N. W., continuing with more or less violence all night, and next day and night. During both nights wind rose to a gale. Lake very rough, and steamers in port did not leave as usual on Thursday evening or Friday. Barometer remarkably steady all month.

STRATFORD.—Lightning, 1st, 9th, 29th. Thunder, 1st, 26th. Lightning and thunder with rain, 5th. Wind-storms, 5th, 30th, 31st. Fog, 19th. Rain, 1st, 5th, 7th, 10th, 11th, 13th, 18th, 24th. Excess of mean monthly temperature over average of 11 years, +3°.69.

HAMILTON.—Lightning, 5th, 9th, 10th, 18th, 21st, 29th. Thunder with rain, 7th. Lightning and thunder with rain, 1st, 2nd, 20th. Wind-storm in night between 9th—10th. Rain, 1st, 2nd, 5th, 7th, 11th, 12th, 13th, 14th, 18th, 20th, 25th, 26th, 27th, 29th. During the night between 9th and 10th, the minimum thermometer did not fall below 76°1, and during the night 21st—22nd the lowest point was over 77°.

SIMCOE.—Lightning and thunder with rain, 13th. On 25th, 7.30 to 8 p.m., a luminous band across zenith, from N. W. to S. E. horizon. Wind-storms, 9th, 28th, 29th. Fogs, 19th, 20th. Rain, 3rd, 6th, 10th, 11th, 13th, 14th, 15th, 21st. Heat of the month very great, and although only eight rainy days, the quantity precipitated was prodigious.

WINDSOR.—Lightning, 5th, 13th. Lightning with thunder, 9th. Thunder with rain, 20th. Lightning and thunder with rain, 10th. Wind-storms, 10th, 29th, 30th. Fogs, 1st, 14th, 16th, 19th. Rain, 2nd, 10th, 11th, 13th, 14th, 19th, 20th, 21st, 24th, 26th. On 4th, two meteors through sq. of Pegasus towards S. 5th, meteor in S.E. towards S., and 7th, S.E. towards H. 25th, Meteor from Northern Crown to H. Lunar halos, 12th, 13th, 14th.

II. Departmental Notices.

ADEQUATE SCHOOL ACCOMMODATION.

CIRCULAR TO THE INSPECTORS OF PUBLIC SCHOOLS IN THE PROVINCE OF ONTARIO.

GENTLEMEN,—It having been decided by the Government, that the Regulations adopted by the Council of Public Instruction, in regard to adequate accommodations of School-houses, were to be considered recommendatory for the current year, as had been previously intimated in the *Journal of Education* for February last, a correspondence has taken place between the Hon. Attorney General and myself as to my duty and authority in enforcing the Second Section of the School Act of 1871, which enacts that "each School Corporation shall provide adequate accommodation for all children of School age in their School Division or Municipality."

The final opinion of the Attorney General on the subject is as follows:

(Copy.) ATTORNEY GENERAL'S DEPARTMENT, ONTARIO,
Toronto, 23rd October, 1872.

SIR,—I am in receipt of your letter of the 19th instant, and collect from it that you now require my opinion on two questions:—

One—Whether you are to enforce the Second Section of the School Act of 1871 at all, in regard to the School Corporations providing any adequate School-house accommodation for children entitled by law to attend the Public Schools, when wilful and notorious delinquencies are reported to you by County Inspectors of Public Schools. My opinion on this question is in the affirmative, and that it is clearly your duty to enforce the requirements of the Act referred to.

On the second question, as to whether you are precluded from regarding dimensions of a School-house as any element in adequate accommodations for a given number of children, under the Second Section of the School Act, my opinion is that you are not precluded from regarding dimensions as an element, and that the effect of the Order in Council only renders the prescribed dimensions of the Regulations of the Council of Public Instruction recommendatory.

I am, Sir,

Your obedient servant,

(Signed,) ADAM CROOKS.

To Rev. E. RYERSON, D.D.,
Chief Superintendent of Education, &c., &c., &c.

It will thus be seen, by the opinion of the Hon. the Attorney General, that it is my duty to enforce the Second Section of the School Act of 1871, and that in doing so I am to take into consideration the dimensions of the School-houses for a given number of children.

It is my opinion that the dimensions of School-houses for a given number of children, as recommended by the Council of Public Instruction, being much less than the dimensions required by law in England, Nova Scotia, and the State of New York (as stated in my Report for last year), are the least that should be required in this Province; and I, therefore, desire that you will so decide, and report accordingly.

It is to be observed that it is not in regard to the style of the School-houses, whether elegant or plain, whether log, frame, brick or stone School-houses; nor in cases where the people are really too poor to build or enlarge a School-house; but it is where the assessed property and circumstances of the people in a School Section shew that they are able to comply with the requirements of the Act, and the trustees of such Section refuse to do so, that you are to enforce it, for the protection and benefit of the children, who by the same law are entitled to attend the School, so that they shall not be excluded from it for want of room, or be packed in it like cattle in a railroad car, or be deprived of the requisite seats to sit on, or the requisite desks on which to write, or shiver with the cold, or be rained or snowed upon for want of proper covering and enclosure in the School-house. Adequate accommodations of a School-house, therefore, include, of course, the furniture proper for children to have, and room for study and recitation, as well as protection from cold, snow, and rain, that they may learn,—as adequate accommodations of a dwelling house include the room and furniture needful for the comfort of a family.

The patriotic intentions of the Legislature, whose Act is an embodiment of the will of the Canadian people, must not be contravened by the misguided selfishness of few or many persons in any neighbourhood.

The people at large, through their Representatives in the Legislature, have declared a free school for every child in the land, and that every child shall enjoy that right; and no individual or neighbourhood shall be allowed to counteract the will of the Nation in a matter of declared national interest and importance.

I have the honour to be,

Gentlemen,

Your obedient servant,

E. RYERSON.

EDUCATION OFFICE,
Toronto, 24th October, 1872.

POOR SCHOOLS IN NEW TOWNSHIPS.

The grants to the Poor Schools in New Townships (the applications from which have been received through the Local Superintendent,) will be certified to the Treasury Department for payment to the Treasurers of the Counties concerned. The grant is payable by the Treasurer, on the order of the Inspector, and must be applied solely to the payment of Teachers' Salaries, and not to building or repairing school houses, etc. Grants of old second-hand readers and other text books, can be made to Poor Schools on application to the Department.

IN THE PRESS.

THE ONTARIO SCHOOL LAW.

Relating to County Councils—Township Councils—City, Town and Village Councils—Township Boards—Union School Sections—Arbitrations in regard to School Sites—County, City and Town Public School Inspections, Boards of Examiners, &c., &c., being Part II. of School Law Lectures. By J. GEORGE HODGINS, LL. D., Barrister-at-Law. Price 75 cts.; by Mail, 80 cts.

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ADVANTAGES OF SUPERSEDING SCHOOL SECTION DIVISIONS, AND ESTABLISHING TOWNSHIP BOARDS OF EDUCATION.

We are glad to observe that there has been a movement in various parts of the country in favour of the Township Board system of schools in preference to that of the present isolated, expensive, and disjointed system of School Sections.

We have collected, and insert in this number of the *Journal*, the opinions and recorded experience of several distinguished and active friends of education in the neighbouring States on this subject. They will well repay perusal, for they deal with a practical subject, and in the light of their experience, we shall be able to see our way the more clearly to the adoption of a township system in our Province under the authority of the 14th section of the School Act passed last year.

We also insert an extract from a letter published in a local paper by D. J. McKinnon, Esq., Inspector of Schools in the County of Peel, in which he discusses some difficulties which are in the way of carrying out the township system, and suggests a practical way by which these difficulties may be removed.

FORMER PROVISIONS IN OUR SCHOOL LAW ON THE SUBJECT.

Ever since 1850, there has been a provision in our School Acts for the establishment of township boards, as contained in the thirty-second section of the Consolidated School Act; but as that section is worded, no such board could be established unless a majority of votes in every single school section of the township was in favour of it. It has happened that out of twelve school sections in a township, the majority of the ratepayers in eleven of them voted for the establishment of a

township board, but the majority in *one* section voted against it, and thus defeated the wishes of the other eleven-twelfths of the ratepayers. Under these circumstances, the thirty-second section of the School Act has remained a dead letter for twenty years, except so far as one township (Enniskillen) is concerned, although a large majority of the county School Conventions, on two occasions, voted in favour of township boards. The law was in 1871 wisely altered so as to leave the question to the decision of the ratepayers in a majority of the School sections of a township. Should therefore the vote of a majority of the ratepayers in a township be favourable to a change, the municipal council of such township is authorized to form the township into one School municipality, under a board of trustees (as is the case in cities, towns and villages), thus doing away with the inconvenience of separate School section divisions and rates, and giving to parents the right to send their children to the School most convenient to them.

TOWNSHIP BOARDS IN VARIOUS AMERICAN STATES.

1. After trying the School section system for some time, Massachusetts, Pennsylvania, Ohio, Iowa, Wisconsin and other States, have adopted the township board system, and pronounce it immensely superior to the School section system. In the State of New York, a compromise system is authorized by the School Law: that is, one or more School sections can "either severally or jointly resolve themselves into Union Free School districts, with Boards of Education, having authority to grade and classify the Schools under their charge." From the Report of the Superintendent of Public Instruction for 1870 we learn that there are now 250 such united districts in the State; of them he says: "having had frequent occasion to examine the provisions of this law (*i. e.* the 'Union Free School Act'), and being somewhat familiar with its workings, I am of the opinion that it is the best School system yet devised for all localities where the number of scholars, as in villages, is sufficient to admit of thorough classification." Rev. Dr. (now Bishop) Fraser, in his Report to the English Commissioners, says: "In the State of New York, Union Schools (or united sections) appear to be the most popular and flourishing of all the rural Schools." In this Province, the township council, if the experiment should not prove satisfactory, can at any time repeal its own by-law establishing such board.

THE EXAMPLE OF CONNECTICUT.

2. The Secretary to the State Board of Education in Connecticut thus graphically illustrates the comparative effects of the adoption of the township over the School section system in that State. In order to understand the facts as stated, we have found it necessary to change the words "town," "township," and "district" to *School Section*, wherever they occur.

"The tendency to manage Schools township-wise is growing. More townships united their School sections last year than in any former one. *Once united they stay so.* At least there is no instance where a township has taken this step and after grading any of its Schools, gone back to the School section plan. Let public sentiment advance as it has done for five years, and the School section system will soon be abandoned. The people are fast learning the economy and efficiency of the township system. They see that it favours the wise expenditure of the public money; gains better and more permanent teachers, longer Schools, and helps the poorer and outlying School sections. The township system, too, lessens the frequency of tax assessments and collections. Many a School-house is going to decay because the funds requisite for such purposes would necessitate a section tax. The expense of the assessment and collection of such a tax makes too large a share of the tax itself. In most of the sections the amounts thus provided were very small. So small that it would have been wiser and more economical for the township to pay the bills. * * * Facts on this subject are better than theories. I have, therefore, requested one of the School visitors of Branford, to describe the effects of the change in that township. His published letter shows what they did, how they did it, what they gained by it, and why they voted almost unanimously '*not to go back.*' It will be seen that prior to the union there was much ill-feeling in regard to School matters, that the discipline was deplorable, average attendance low, and the teachers changed generally every term; under the new system the people are better satisfied.—School Committee and teachers more permanent, Schools graded, terms lengthened, the motion made at the last annual meeting to reduce the School year from forty to thirty weeks, not receiving a single vote. The average attendance has improved twenty-five per cent. Scholarship wonderfully improved—one hundred per cent. better than it was four years ago."

THE EXAMPLE OF MASSACHUSETTS.

3. The late Horace Mann, so noted for his enlightened views on education, deprecating the district or School section system, says: "I consider the law authorizing townships to divide themselves into (School sections) *the most unfortunate on the subject of Common Schools ever enacted in the State (of Massachusetts).* In this opinion, ex-Governor Boutwell and the eminent educationist of the same State, concurs and hopes that the day will speedily be seen when every township in its municipal capacity will manage its School and equalize the expenses of education."

THE EXAMPLE OF PENNSYLVANIA.

4. The Superintendent of the State of Pennsylvania, in his last report thus explains the township system which has been established in that State. He says:—

"Each township, borough and city in this State is made by law a School district. The districts thus formed are the only ones except a small number of what are called 'independent districts,' (like our Union School section), with a single school formed out of parts of adjacent townships, otherwise badly accommodated with schools. Outside of cities and boroughs the School districts have from one to thirty Schools in them—the average being about seven Schools. * * * The State Superintendent can refuse to pay a district (township, borough, or city) its quota of the annual State appropriation, if its directors do not keep the Schools 'open according to law.'"

The directors of a district are authorized by law to appoint and pay a district superintendent, and to require the teachers in their employ to hold a district institute. Each board is compelled to make an annual report to the State superintendent, through the agency of the proper County superintendent, who must approve it, accompanied by a sworn statement to the effect that the Schools of the district have been kept open and in operation according to law, and specifically declaring that no teacher has been employed during the year who did not hold a valid certificate, and that the accounts of the district have been legally settled. Failing to make such a statement, a forfeiture of the State appropriation follows.

The School directors of each county, and of each city and borough having over 7,000 inhabitants, as may choose to do so, meet in conventions triennially, at the call of the State superintendent, to choose a superintendent and fix his salary. The directors are limited in their choice of a person to fill it, to those having certain

scholastic and professional qualifications, and the sufficiency of which the State superintendent is to judge before he issues the commission. The State superintendent pays the salaries of the County superintendents, and fills all vacancies in the office by appointment."

THE ECONOMY AND BENEFITS OF THE TOWNSHIP SYSTEM.

The State superintendent of Kansas thus forcibly discusses the advantages of a township system as compared with that of School section. He says:—

"1. *Boundaries*—It will end and for ever put to rest the interminable disputes about School section boundaries, personal heart burnings and animosities, secret malice and revenge; neighbourhood feuds and public broils engendered by this prolific source of strife and contention, will cease to exist. The law having once permanently established each township a School division, the trouble will then be at an end. There being no more boundary disputes about which the people can make themselves miserable, they can unite in building up good Schools.

"2. *School Officers reduced*—It will dispense with a large number of School officers and elections, and simplify the control and management of our Public Schools. The present law provides three officers for each School section, the new one but six for each township, thus dispensing with a large number of superfluous officers, simplifying the management, and securing uniform work in all the Schools. The petty annoyances and loss of time occasioned by so many School meetings and elections will in a great measure be avoided.

"3. *Diminish aggregate expense*—It will diminish the aggregate expense of our Schools, and establish a uniform rate of taxation. It is a fact recognized by the best educators both in Europe and America, that the number of pupils which can be taught to the best advantage by the unclassified Schools of the rural section by one teacher is about forty. Another deleterious effect of this independent School section system lies in the opposite direction; *for when the number of pupils under one teacher exceeds fifty or sixty, the teacher cannot do justice to his School, and when it reaches seventy or eighty, proper instruction is entirely out of the question.* If a change were made from the old system to the new, the School board would from time to time unite small Schools and divide large ones, so as to adapt them to the wants of the people, and then adapt the teachers to both: very much after the manner in which the system is administered in our larger towns.

"4. *Uniform Taxation*—Taxation for School purposes would become more uniform, inasmuch as under the present system the people in the smaller and weaker sections pay three or four times as much as their neighbours in the larger and more wealthy sections and often get much less for it, both in quantity and quality, as they are never able to employ the best teachers. In the township system, the tax is levied equally upon all parts of the township, and as the object to be obtained, which alone justifies such taxation, is the education of all the children without distinction, nothing less than an equal provision for all should satisfy the conscience of the people.

"5. *Graded or Classified Schools*—It will provide for the establishment of a system of graded Schools. This is the highest development of the free Public Schools, ever yet attained by the best educators in any country. *It is the perfection of School Economy.* The greatest superiority of city Schools over those in the rural sections is explained in the fact of the complete gradation and classification of the former. The only feasible method yet devised for grading and classifying country Schools is provided in the township system. And it will do for the country Schools what it has already done for the city Schools, in bringing order out of confusion, light out of darkness, and success out of failure.

"6. *Convenience of School location*—Townships containing a given number of inhabitants, or a certain amount of taxable property, or both, could have their primary and intermediate Schools fixed in different parts of the township, so as to be of easy access to the smallest pupils. Then with a Superior or High School at the centre, free to all between twelve and twenty-one years of age, kept open, at least, ten months in each year, the system would be complete. With such graded Schools in each township, the superior education necessarily resulting therefrom, the increased interest in the Schools, and the great economy of time and means employed in their management, would soon bring them into universal favour.

"7. *Appropriate Grade for pupils*—It will systematize the Schools and provide an appropriate grade for each child. The great bane of the old independent section system is, there is no classification; in fact, from the very nature of things, there cannot be. Every teacher well knows that the most important thing in

the organization of a School is a thorough and complete classification of all the pupils in accordance with a judicious and systematic course of study. This will require and secure uniformity of the approved text-books, improved methods of instruction and better discipline.

"Age and Acquirements Classified"—Pupils of the same age and advancement will be placed in one grade; those older and more advanced in another—thus giving to each teacher a specific work. By this division of labour the classes will be increased in size, but diminished in number, thus enabling the teacher to devote more time to each class, and impart to each pupil more systematic and efficient instruction. The enthusiasm and excitement which a large class always creates in every School develops a corresponding zeal, energy and determination upon the part of the teacher to excel in his noble work. He labours more faithfully, and succeeds in infusing into his pupils new life and vigour—prompting them to higher aspirations and nobler effort in their studies. Thus the School is developed into the pride of the neighbourhood, and a blessing to the people.

"6 Efficient Supervision"—It will secure a more efficient system of School supervision. Under the present system, the time of the County Inspector is largely occupied in organizing Schools, classifying pupils, changing union section boundary lines, cutting off here and adding on there, in the vain hope of finding some golden mean of fixity. Under the new system the County Inspector would be relieved from most of this unprofitable work, and would be able to spend his time more exclusively among the Schools, looking after and fostering their best interests, and prompting teachers and members of the School boards to the full performance of their manifold duties. With the increased responsibilities the School board becomes a supervisory committee, vigilant and active, ever watching with zealous care the sacred trust confided to them in securing for every child in the section the best education possible.

"7. Better Qualified Teachers"—It will secure for our Schools better qualified teachers, with better compensation. As the number of pupils in each School can always be kept up to the maximum, it necessarily follows that with a graded and classified School, one teacher will do the same work and in a superior manner than two, and in many cases even three or four, are doing under the present system. We confess this proposition, at first sight, appears somewhat paradoxical; yet when we remember the vast superiority of graded over ungraded Schools, it does not appear so very absurd after all. In fact it is true—and a small portion of the money thus saved, in addition to the present compensation of teachers, will command the best skill. Increased salary will always bring better qualified teachers, consequently better Schools and better education for the children."

AMENDMENT TO OUR OWN SCHOOL LAW RELATING TO TOWNSHIP BOARDS OF TRUSTEES.

One or two difficulties have been experienced in giving effect to our school law on the subject.* These difficulties have been pointed out, and a mode of overcoming them suggested by one of our Inspectors (D. J. McKinnon, Esq., of Peel), as follows:—

"I have expressed my belief that under the township system, schools might be so placed that every child in the Townships of Toronto and Chinguacousy would be within two miles of some school. This might be done by planting schools ten lots apart one way, and four concessions the other, with one in the centre of each (almost) square, thus giving two concessions (1½ miles) as the maximum distance to be travelled by any child.

"But here a difficulty meets us at the outset in the shape of several really good school houses already—many of them lately—built, and which it would be most unreasonable to close merely because a little out of place. I have found, however, that by slightly modifying the original scheme these schools may be all brought in by leaving only one corner of either township (7 lots), more than two miles distant from some school—children from the same corner having now to go more than four miles.

"We have at present 46 sections in Toronto and Chinguacousy, of which 9 are Unions, and supposing the burden of five of these to fall upon these two townships, there are still 41 left. Besides, there was presented to the county council at its last session a petition from certain farmers in Chinguacousy, showing that some of their children had from four to five miles to walk to school, and praying for a new section. Should the wish of these ratepayers be granted, there would be 42 schools to support under the present

system instead of 37 under the township plan. Should ratepayers in each of the five sections in Chinguacousy, whose outskirts lie three miles or more from their respective school-houses take the same course, it would, by multiplying the number of schools, very materially increase taxation in that township.

* * * * *

"But even reckoning the number of schools to be kept up under the present system as only 42, there would still be five more than under the township plan; and counting the cost of maintaining each school in the future as \$500 per annum (interest on value of site, building, furniture, &c., say \$1,500, at 7 per cent. \$105; fire-wood, \$20; repairs, prize books, &c., \$15; and salary of a teacher, \$360), the amount saved on the five schools would be \$2,500, or \$60 a piece to each of the 37 schools, and \$280 over for 'contingencies.' That is to say, it would cost the people exactly the same to have a \$360 teacher under the township system as a \$300 man at present; or rating teachers according to salaries, the efficiency of the schools would be increased by 20 per cent.

"But here I anticipate an objection. If the number of the schools were reduced to 37, would not the increased attendance at each make the work too great for 37 teachers to overtake? I answer decidedly, no, for the aggregate attendance of the townships for the first half year of 1871, was only about 1,400, or less than 38 a piece for 37 teachers, while for the second half it was some 50 less, so that even if the attendance should increase by one-fourth on account of the greater facilities afforded to children who are now at too great a distance, it would still fall below the 50 allowed to each teacher by law.

"Another great advantage of the township system would be the equalization of taxation. I shall at this time merely say, that the present system is most unjust, some sections in the county having double the amount of ratable property that others have, and consequently requiring to pay each man less than half the taxes for the same class of school.

"But what about the new and good houses already built? Will those who have paid some \$40 apiece for school-houses in their own sections be required to turn round and pay their (say) \$20 additional for similar buildings in other parts of the township? This would assuredly be most unfair, as men in sections that have been enterprising enough to put up expensive houses would have paid some \$60 for schools belonging to the whole township, while their more canny neighbours whose present schools were built some 30 years ago, would get off with \$20! But fortunately the remedy is simple. If A. and B., two merchants in the dry goods trade, having stocks valued at \$7,000 and \$3,000 respectively, agree to go into partnership on even terms, with a capital of \$20,000, on the understanding that their present stocks shall be the property of the firm, it would be absurd for B. to say, 'We have now \$10,000 between us, and the \$10,000 more required will be just 5,000 apiece, because, you know, we're equal partners.' 'No,' A. would say, 'I've \$7,000 in now, and you've \$3,000, so I shall put in \$3,000, and you \$7,000, and then we'll be on even footing.' And so may it be arranged with existing school property. Let the township board, if formed, buy up all the school property of the various sections at a valuation, so that the value of such property shall be deducted from the building taxes of those who have paid for it, and thus even-handed justice done.

"But what of the fairly good school-houses—those not quite coming up to the requirements of the law, but yet too good to throw away entirely? Make them into teachers' residences. A partition or two run through, and a kitchen attached, will convert the most of them into very comfortable little houses, and this would be by no means a useless investment, for fully one-third of the teachers at present engaged are married men; and I have known of several instances during the past year where a good school has been refused by a good teacher simply because he could not get a house.

"Of course, even if township boards were at once established we couldn't expect to see all these changes at once. New schools would have to be built no sooner than they will if no such change take place, but when built they would be in the most convenient places, and every child could at once be allowed to go to the school nearest him. After all, it would perhaps be hardly worth while to make such a change for the sake of saving a couple of dollars a year to each farmer, but for the sake of the little ones who now must wait till ten or twelve years of age before they can walk their three miles or so to school in winter, it is worth while to go to some trouble."

In a memorandum addressed to the Government last year on some amendments to the school law, the following suggestions were made:—

"The 14th section of the School Act of 1871 might be amended so as to provide that school sections which have erected good school-houses of a certain valuation to be determined, should be exempted

* The same difficulties, in giving effect to the law, are, no doubt, experienced by other Inspectors, so that the example and illustrations here given, may be taken as a fair specimen of similar difficulties in other parts of the Province.

from taxation for new houses in other parts of the township where this had not been done. It might be well to consider whether it would not be better further to amend the law, so as to authorize two or three of the existing school sections (according to the size of the township), to unite and elect one member to the township board, to retain the existing boundaries (subject to alteration by the board) for taxation purposes, but to abolish them so far as they now restrict the right of each ratepayer to send his child to the school of the section in which he pays school rates."

THE TOWNSHIP SYSTEM VERSUS THE SCHOOL SECTION SYSTEM.

State Superintendent Johnson, in his last report, takes occasion to urge anew, upon the people of the State, the great advantages that would be derived from the abolition of the district system and the adoption of the municipal system, by which the schools of a town would be placed wholly under the control of the superintending school committee. Some extracts which he gives, from sources entitled to great respect, put the matter in a very clear light, and ought to induce many of our towns to make the change, which would greatly and speedily improve their schools, and render them comparatively less expensive than at present.

The following enumeration of some of the prominent obstacles which are in the way of the greater efficiency of our schools under the district system is worthy of attentive studying. They are real and not imaginary.

1. Total lack of our unsufficient supervision.
2. Constant change of supervision.
3. Poorly qualified teachers.
4. Constant change of teachers.
5. Lack of interest in schools on the part of patrons.
6. Employment of relatives and favourites without regard to qualifications.
7. Too small schools in many districts.
8. Too short schools in small districts.
9. Employment of immature and incompetent teachers in small districts.
10. Poor school-houses.
11. Irregular attendance.
12. General lack of facilities to aid the teachers.
13. No schools at all in many districts.
14. Lack of proper qualifications.
15. Pupils study what they choose, and not what they ought.

These twice seven and one plagues of our common-school system will be recognised by every one who has had any experience in connection with the public schools of the State.

After discussing at considerable length the reason for a change to the town system, the following are given as some of the desirable results that would be realized by abandoning the district system, and placing the schools under the care of the town:—

1. It would secure just as many schools as the necessities of the community demand, each being an integral part of one central organization, and adapted to the wants of each individual.
2. It would dispense with a large number of school officers.
3. It would establish a uniform rate of taxation.
4. It would furnish more uniform and equal advantages and privileges to every citizen.
5. It would allow the child to attend school where his own interests would be best conserved, with no restraint save what the general interests might require.
6. It would prevent strife about district lines.
7. It would diminish the aggregate expenditure for schools.
8. It would secure a more efficient system of school inspection and supervision.
9. It would secure permanency of supervision.
10. It would secure greater permanency of teachers.
11. It would secure a better class of teachers.
12. It would secure better compensation to competent teachers, and less employment for incompetent ones.
13. It will secure better school-houses.
14. It will secure greater facilities to teachers for reference and illustration.
15. It will enable towns to establish graded schools.
16. It will secure uniformity of text-books in the same town.
17. It will result in more uniform methods of teaching.
18. It will secure the establishment of a course of study, and will tend to keep pupils longer in school.
19. It will secure to the State department more reliable statistics.
20. It will insure schools in every district, and prevent a bare majority from depriving a respectable minority of school privileges.

21. It will tend to diminish neighbourhood quarrels.

22. It would ensure the employment of fewer nephews and nieces, sisters and sisters-in-law.

23. It would insure a larger aggregate of interest on the part of the community in each school.

24. It would render possible competitive examinations.

There is no gainsaying the force of the argument presented by the above points, all of which are susceptible of the clearest proof and demonstration. Nothing but apathy and prejudice can prevent a reasonable person from seeing that they are conclusive in favour of a change. Are those persons who doggedly cling to the district system, aware of the following fact? That of those towns in Massachusetts and other States, which have abandoned the district system, it is very rare that one, after a fair trial, has any inclination to return to that system. The advantages of the town system are too apparent and too important to be lost when they have once been attained and enjoyed. A word to the wise, &c., &c.—*Maine Journal of Education*

I. Papers on Education in Various Countries.

1. SCHOOLS OF EUROPE AND AMERICA.

Hon. B. G. Northrop, in a recent address, thus contrasted them.

There are many features in which foreign schools may learn from us; but in others they are our superiors. One advantage in our favour is the general employment of women in teaching. In foreign schools it has been the school-master almost exclusively.

With respect to the points of superiority, the first that strikes one is the earlier and more thorough gradation. In our country, especially in the rural portions, the schools are often enfeebled by separation, when they might be strengthened by union. Then they have such admirable, thorough, universal supervision carried down to the lowest school and up to the highest. This is perhaps their best feature; and the result is that the schools are so good that the attendance increases even where the bishops deny the sacraments to parents who send their children to school. Where the schools are made excellent, they need not fear the ban of any church preventing attendance. In Rome the new system gains ground as the schools improve. At the anniversary of its adoption, a grand school celebration was held; an amphitheatre was erected, and five hundred children drilled for a chorus; the conscript fathers were present; and everything combined to make a gala day, closing at night with an illumination at the Coliseum. The whole produced a profound sensation, and the permanence of the common schools is settled. These results were produced in a great measure by their careful supervision, directed by one controlling mind. In Vienna, too, and indeed in the cities generally, the same feature is seen; and the results are manifest.

It is with some surprise that the American educator returns home, and finds this great city of Philadelphia without a superintendent. Your grammar and high schools deserve commendation, but I wonder at the inequality which is observed in the other departments—one ward having a good principal and thoroughly drilled assistants, and in the next the primary schools being quite unworthy of you. This could not be under an efficient superintendency, which would bring all up to a uniform excellence. No city in the country has abandoned the superintendency after trying it, and in many it has produced marked improvement.

Our schools too often fail by a most meagre development of language and power of expression; and here the Europeans excel us. The children are required to commit the gems of the language, and thus the memory is trained and a high standard of taste created. The schools of Germany and Switzerland especially excel in this respect. One and often two modern languages are taught in every school, and the children are often more proficient in all three languages than ours are even in their own.

Then they give more attention to history. This may be partly because on every hand they see memorials which link the present to the past. The sentiment of patriotism is developed; in Germany loyalty to the emperor; in Switzerland, love of country. The Swiss motto, "One for all, all for one," is thus graven deeply in the hearts of the people. The Prussians understand that "what you would have in a nation's life you must put it into its schools;" and you hear "fatherland" everywhere. Technical education is provided for; almost every trade has its school, and they contribute largely to the thrift of Germany and Switzerland. The universality of instruction in drawing is a marked feature; and I urge upon all superintendents and those in authority to have drawing introduced alongside of geography and arithmetic.

I found the compulsory attendance produced no discontent among the common people; they complained of conscription, but never

of compulsory education; they would re-enact it themselves if abolished—the law represents the sentiments of the people. They are superior in their universal singing; one of its results is found in your music to-night, and music has been an important element in developing the German character. They are strong in object teaching—oral instruction—independence of text-books. The school authorities practically dignify labour; in the Geneva high schools the girls are taught to sew, and to run the sewing-machine. They have also thorough training of teachers in normal schools, and understand the advantage of permanence in the relation of teacher and school. In the French Schools, the admirable posture deserves imitation; it is one of the best guards against pulmonary consumption. Altogether, there is much that we might profitably study and copy in America.

2. DEFECTS IN AMERICAN SCHOOLS, AND REMEDY.

At the recent Pennsylvania State Teachers' Association, Prof. Allen read a paper on "Reform in Primary Teaching." He said—The defects to which I desire to call attention are these:—

1. The conditions of child-life in the school-room are not properly considered, and hence no suitable basis can be established on which to begin the work of school instruction.

2. No natural order of studies or subjects to be pursued has been established. Hence very many subjects and branches of study are taken up at improper periods, some of them entirely useless, to the exclusion of those that are highly essential.

3. No systematic method of training the perceptive faculties has been adopted. In fact, we may almost conclude from what we see daily in school-rooms as we travel over the country, that these faculties are not to be taken into account in the process of primary instruction. As a result of this, children grow up to be men and women in blissful ignorance of very many of the most common and practical things in daily life.

4. The elements of our language are among the first lessons given to a child on his entrance into the school-room. Instead of words which represent the ideas and things, meaningless letters and sounds are substituted. Books are used too soon in primary grades, and, in fact, I may say used too much in all grades. Oral spelling is taught.

5. Physical science is almost wholly ignored in primary schools.

6. The hours of confinement in the school-room are too many. Children are required to sit while in school, when they ought to be moving about or standing at blackboard, maps, charts, or working with apparatus.

7. Inexperienced, cheap, and consequently poor teachers, are generally employed for the primary grades.

These are among the most glaring defects in our present plan, though not all. Yet I trust there is a sufficient number to form the basis of an interesting discussion.

The legitimate fruits of these defects may be found in irregularity of attendance, truancy, absenteeism, a hatred of school and books, a distaste for learning, and the much-to-be-regretted fact that the great bulk of common school pupils leave the schools at or about the age of sixteen.

The "new departure" consists—

1. In dividing school life into two periods, known respectively as the how or fact period, and the why or philosophical. Instruction during the first period consists in giving processes, familiarizing tables, acquiring rapidity and accuracy in performing, and should be wholly, or nearly so, conversational.

2. As all studies in the school-room may be classed under the three heads of language, mathematics and natural science, and as the elements of all physical and natural science should be taught to the youngest child that enters the school, every child should have daily one lesson in language, one in mathematics, and one in science.

3. Instruction should first be given in how to properly use the senses, that they may convey to the mind accurate knowledge, properly certified to or tested. Very much attention should be given to securing greater accuracy of the perspective faculties.

This embraces three studies, all that any pupil at any time of life ought to pursue. In connection with this, drawing, writing and music come in, not as studies, but as changes, which is, in the true sense of the word, rest.

4. The spoken instead of the written word should first be taught. No attention or time should be given during this first period to teach the letters or figures. Words should be printed or written (better the latter) simply as forms or as pictures are made. These may be taken from wall cards, or from lessons put upon the board by the teacher. As spelling would not be used did we not write, and as we use it properly only in writing, spelling should not be taught

until writing is learned, and oral spelling should never be used as a process for teaching spelling.

As words should be taught before letters, the time will not be long before the letters and figures will be known by the pupils, and you will have been saved a vast amount of vexatious, tedious, and patience-trying work, and the pupil will have been saved that rough, stony and thorny path over which the most of us have trodden in sorrow. They will have picked up these little waifs or integral parts of language the natural way.

If we desire to teach language efficiently and correctly, we must bear in mind that habits of speech are caught much more easily and readily than taught.

5. Physical science should be taught by bringing the subjects and things of which they treat as far as possible into the presence of the child. Let his eyes see and his hands feel the subjects and things presented. In doing this every school-room becomes a miniature museum. I should like to exhibit such an one as I now have in mind, collected entirely by the children of the school. In thus studying these subjects the child is brought in direct contact with the material with which he daily meets and has to do with in after life. His vocabulary is increased, as well as his knowledge of the meaning and spelling of words. All his exercises should be written.

6. No primary school ought to be open for a longer period each day than four hours, and the rooms should be so arranged and such fixtures furnished as will allow the pupil to be standing or sitting, as he may desire. Children thus situated, it is found, seldom sit. This is nature's plan.

7. None but experienced teachers and those of much learning and culture, ought ever to be placed in primary schools. Consequently the primary teacher ought to have a higher salary than in any other grade.

3. A NEW SCHOOL FEATURE.

In Denmark children may attend school one part of the day, and work the other part. A school-house in Copenhagen is furnished for a thousand children; one session is held in the morning, a thousand attending; in the afternoon a second thousand attend, both schools being under the same general management. This system secures a happy union of bodily and mental exercise. It is profitable whether considered in an intellectual, moral or pecuniary point of view, and is based on sound principles. Experience proves a few hours of mental labour better for the educational progress of the student, than of a whole day of forced application to books, as was the custom in early times.

4. COMPULSORY EDUCATION.

While there are 5,660,074 illiterates in the United States, there are but about 3,637,000 of adult illiterates; and the latter seems the fairer way of stating it, as many persons learn to write between the ages of six and twenty-one. Only 1,148,000 of these are in the North, and of these 756,000 are in the Pacific States, thus leaving 583,000 in those States where our school system has had its best opportunity for development. In the Northern States there are 690,000 foreign illiterates; if only half of these are in the States referred to, (and doubtless there are many more,) then the number of native adult illiterates dwindles down to 238,000, or less than one to each 100 of their population. Making a fair estimate of the number of these from the South, both coloured and white, and there remains less than one illiterate to each 300 of those who have had the advantages of our free schools. Surely this is not a disgraceful record when compared with other countries, and especially with the results of the compulsory law in Prussia; for in this country, after an enactment compelling children to attend school between the ages of six and fourteen had been thoroughly tried for 128 years, there were found to be for each 100 inhabitants, one young man between the ages of twenty and twenty-two who could not read and write. What would be the proportion were older persons and females included?

History proves most conclusively that the leading nations of Europe do not base their power on any compulsory system of education, but on the superiority of their teachers and schools. Prussia affords a striking example of this, as she tried such a law for almost 100 years, and, meeting with so little success, determined to devise some plan which should prove more effectual, hence established a sufficient number of Normal Schools to educate all who wished to teach, and from their organization dates that high culture which has astonished all Christendom. With these are connected preparatory departments, in which applicants are tried for six months, at the end of which time only those who have shown considerable

ability are allowed to enter the Normal department; here they must remain three years, and not only finish their course of study in an honourable manner, but also prove themselves successful teachers, or else they are not permitted to take charge of a school. Any teacher who fails to make sufficient advancement, either in skill or culture, is required to re-enter the school for further instruction. Thus the Prussian instructors are only the best of the best, and no person is allowed to teach either a public or private school without the same rigid preparation. There are four cantons in Switzerland that have never had any compulsory law, and yet education in them is said to be as nearly universal as in any of the others; because, like them, they employ none but very superior teachers.

But it is stated by good authority that Holland has accomplished what no other country ever did, as she has not one adult citizen who cannot read and write. Yet she has never had any laws compelling school attendance, but her grand success is the result of having teachers and schools superior even to those of Germany, Prussia, and Switzerland.—*M. Embree, in American Educational Monthly.*

5. COMPULSORY EDUCATION.

The new school law of England permits all local Boards to enforce attendance. Public sentiment throughout England is now changing rapidly in favour of making compulsory attendance national and universal, instead of permissive. As one of many illustrations of this change, Rev. Canon Kingsley, formerly favouring non-compulsion, now advocates the compulsory principle.

The Motto of the National Educational League, of which George Dixon, M. P., is President, is "Education must be UNIVERSAL, UNSECTARIAN, COMPULSORY." At the late General Conference of Nonconformists, held in Manchester, January, 1872, and attended by 1,885 delegates, there seemed to be great unanimity in favour of enforced attendance. This assembly was as remarkable in its character as its numbers. The argument of Mr. Jacob Bright, M. P., on this subject was received with great applause. He said that the best part of the Education Act, that which is worth all the rest put together, is the permission to compel attendance, which should be the absolute law throughout the entire kingdom.

The labouring classes are not opposed to such a law. They would welcome it. In England the working classes are asking for a national compulsory system of education. By invitation of A. J. Mundella, M. P., I attended the National Trades-Union Congress, held at Nottingham for the week beginning January 8th, 1872. That body seemed unanimous in favour of compulsory attendance. One of the leading members, an able and effective speaker, said that in large and crowded assemblies of workingmen he had often distinctly asked: "Do you agree with me that we want a national compulsory system of education?" and not a dissenting voice had he ever heard from the workingmen.—*B. G. Northrop, in Christian Union.*

6. WHY DON'T SOMEBODY DO SOMETHING FOR THE SCHOOLS.

What shall we do? That's the question, and a deep one too. What shall we do to elevate and push forward the educational standing of the people? What shall we do to render our schools what they should be? Shall we content ourselves with drawing out an acquiescence, "Something should be done;" or languidly inquiring, "Why don't somebody do something?" Let me whisper it in your ear, kind reader—for I would not like to say it out loud, for fear of offending some lukewarm, hypocritical friend of progressive education—this is about all the great mass are doing. Yes; why don't somebody do something?

What shall they do? Let us consider a moment. First, I should say, *organize*. In union there is strength. Organize for offensive, defensive, and progressive purposes. Organize as a whole State, with subordinate organizations in every county and town. There are live men in all sections. They will band together and accomplish good if the right impetus is given. We fear not the triumph of ignorance and retrogression, if we choose our ground, fortify our camp, and keep our ranks recruited. It is the demoralized army that is easily overcome. It is the unskilful hand that gathers the poor harvest. We must initiate the aggressive, and "Push things."

Keep it before the people. Shame them out of poor school-houses, scrimping dealings toward educational enterprises, and antiquated usages. Talk, write, prove, urge, press, *worry* them up to duty. Stick-to-it will accomplish wonders. Induce, lead, entice, entreat, and *drive* them into the better way. Let them see

we are irrepressible—that we won't "down at their bidding," but are quiet fellows when we get our ends answered by their discharge of duty. This is the only way we may hope to make reform. We must go ahead, keep ahead, drive ahead, live ahead, and die ahead, then somebody will do something.

We have missionary work, plentiful and pleasing, to do for common-school education. Every district, from Kittery Point to Quoddy Head, is a fruitful field for labour. Every town, from Fort Kent to the sea, wants colporteurs of progress leaving tracts, and making tracks, that shall point toward the highway of reform. Pioneers to fell the forests of darkness and ignorance, clear the fertile fields of usefulness, and to sow the seeds of wisdom, whose crop shall be abundant. Here is a chance for somebody to do something!

Live it, talk it, act it, develop it. This is the way, the only way, and the true way. Don't wait for "somebody to do something." Perhaps somebody is waiting for you, and this throughout the ranks causes present torpidity. Get your hands out of your pockets and hold of the handles of the good old reform plough—*agitation*. You can hold if you cannot drive, and, mind you, look not back; forward is the goal and the promise; fix your eye on the standard of progress and turn a straight furrow. We have team enough when we get them all hitched on! Horace Greeley says, "Plough deep!"

The opposition received a partial triumph the past winter. Let us be prepared to regain lost ground another winter, and push back their lines till we occupy their camp and rout them completely. Let our whole line be put in motion for a general engagement and decisive charge. We want no forlorn hope, singled out for daring deeds, while the rest are "waiting for somebody to do something!"

If we are true men and not mercenaries, let us do our whole duty. We have need to work; it is time for action. We need to have thorough, minute knowledge of the enemy's forces, country, position, and strength. We need to study well the approaches, and take advantage of all weak points and unguarded places; get our heavy artillery into position, and be prepared always for a forward movement—never for retreat. Our starry banner, with its motto, "ONWARD," shall be planted victoriously over many a hard-won field and fortress of good-enough-as-it-is. Forward!—*J. W. LANG, in Maine Journal of Education.*

7. COLLEGES FOR WOMEN.

The late Miss Sophia Smith, of Hatfield, in Massachusetts, bequeathed by will a considerable sum for the establishment and maintenance of an institution for "the higher education of young women," designed to equal in the advantages afforded by it the colleges for young men. The trustees named in the will have purchased an eligible site in the beautiful town of Northampton, six miles from the colleges in Amherst and an equal distance from the Mount Holyoke Seminary. They have cash funds, including \$25,000 given by the town of Northampton, amounting to \$358,000. They are now seeking the means to erect the necessary buildings and the art museum without encroaching on these funds. The scheme which the Board of Trustees have adopted is a large one. The study of Greek and Latin is to be pursued as extensively as in colleges for young men; not less attention will be paid to modern languages; more time will be devoted to English literature and to aesthetics; the physical sciences will be taught so as keep pace with the scientific and material progress of the age; probably less attention than in other colleges will be given to mathematics, but more to ethics and metaphysics; facilities are to be afforded for the pursuit of special studies, and, to sum up, "the system of training will be such as to fit young women to become teachers, not only in our Sabbath-schools, Bible-classes and mission-stations, but also in our highest institutions of learning; to become writers, also, not only of articles for the daily and weekly Press, but also of standard books." This is a grand scheme, which it is safe to say will never be accomplished until the present available funds are increased several fold. We should suppose \$2,000,000 in hand would be as little as would afford reasonable promise of its accomplishment in this generation.

UNIFORM FOR SCHOOL-GIRLS—WHY NOT!—A writer in *Scribner's Monthly* does not know "why it is not just as well for school-girls to dress in uniform as for boys. There are many excellent schools in England where the girls dress in uniform throughout the entire period spent in their education. By dressing in uniform the thoughts of the pupils are released from the consideration of dress; there is no show of wealth, and no confession of poverty. Girls from widely separated localities and classes come together, and

stand or fall by scholarship, character, disposition and manners. The term of study could be lengthened by the use of the money that would thus be saved; and while a thousand considerations favour such a change, we are unable to think of one that makes against it." These reflections are suggested by the fact that in some of our schools the mere item of dress for young ladies is often over \$1000 a year.—*American Educational Monthly*.

OXFORD UNIVERSITY celebrates this year the 1000th anniversary—probably fabulous—founded by King Alfred.

SIR CHARLES LYELL is seventy-five years old. He graduated at Oxford, and commenced studying law, which he soon forsook for geology.

WOMEN are now admitted to fifty American colleges.

8. LINDSAY SEPARATE SCHOOLS.

Under the fostering care of the Rev. Mr. Stafford, Lindsay can boast of the best Separate Schools in Ontario. The pupils of these Schools have been able to compete successfully with those of the Public Schools. It speaks volumes for the Separate Schools of Lindsay when we state that no less a sum than fifteen hundred dollars *per annum* are paid for the salaries of Teachers.

9. SUNDAY SCHOOLS IN CANADA.

We suppose that in these days there is no question as to the utility of Sunday Schools, or as to the success that has attended their efforts. The consensus of opinion in every branch of the Church demonstrates the desirability of these institutions. All denominations are agreed that the surest way to spread the truths of the Gospel is by taking hold of the young and inculcating in them religious habits, whilst the vast numbers of children that each Sunday attend them are a convincing proof of the success that has attended their labours. It is impossible that so large a number of children can be gathered together week by week to listen to Christian teaching without a great proportion of them being benefited thereby; and if further proof were needed, the fact that the membership of every Church is largely recruited from the ranks of the Sunday School, would supply it.

But at the recent Sunday School Convention, where the thoughts of those present were naturally directed to the question, how they can be improved, how their appliances can be increased, and the success attained added to, it was suggested that one principal method in which that success could be increased was by interesting, to a greater extent than at present, the higher classes of society in the work of the Sunday School. It was complained by some of the speakers that this portion of society pay but little attention to the Sunday Schools of the Churches to which they belong, and leave the work to be carried on by persons of inferior culture, and smaller influence. This view was at the Convention considered open to question, and it was contended by some that at present the higher classes did take a fair share of the labours of, and incident to, Sunday Schools. An incident that occurred at the recent Church Congress held at Leeds, England, where the flower of the Church, both clergy and laity, was assembled, serves to confirm this latter view of the question. A debate on the subject of Sunday Schools formed one of the most interesting features of the Congress, and the fact that the question was introduced by a paper written by the Lord Chancellor (Lord Hatherley) proves that many of the most eminent of the laity take a warm interest in its discussion, that in England, at least, the upper classes do feel an interest in, and share the labour of, the Sunday Schools. Lord Hatherley, who is well known as an earnest and devoted Christian man, has been a Sunday School teacher for 35 years, and throughout that long period he has devoted himself to the labour incident to that office with quite as much assiduity as he has to the more onerous duties of his position as an eminent judge. We know that in England many similar instances could be easily found, and we believe that a similar result would attend a careful inquiry into circumstances in this country. Should an inquiry prove the contrary, the example set by the noble and learned Lord ought to, and we hope will, prove contagious.—*Montreal Gazette*.

II. Papers on Practical Education.

1. SCHOOL READING IS NOT READING.

Although about one-half of the teacher's time in the school-room is devoted to hearing the classes read, yet the results produced are most unsatisfactory, and good reading has become to be almost

one of the "lost arts." There is evidently a defect somewhere, either in the method of teaching followed, the text-books used, or the qualifications of teachers employed.

To be able to read well implies not only a correct articulation, but also a thorough understanding of the meaning of the words read. Attempting to read without this knowledge, is like pronouncing the words of another language without understanding their import. If a correct knowledge of the meaning of words is essential to correct reading, why do not teachers give this subject more attention? Why do we see so many classes in our schools called unto the floor, allowed to read round once or twice in a monotonous, sing-song drawl, and then sent back to their seats without a comment being made or a question asked by the teacher? Want of time may be one reason, and probably a true one, in schools where the classification is not good. In such schools the classes should be reduced in number, and thus time would be gained for the proper instruction of the remainder.

In many cases teachers are not properly qualified to teach this branch, and consequently are unable to awaken an interest in the subject. The character of the readers used is also a matter of no little importance. Extracts from Shakespeare and Milton, etc., are not interesting to children, nor should they be required to read them; yet such extracts constitute the larger part of the readers used.

A reading book should be an instruction book, instructing the children in matters of every-day life, those things which come under their observation and with which they are familiar. The plants and flowers which grow in the fields; the curious forms and habits of insects; the animals, pebbles, and birds; the stars which twinkle at night, are all objects of interest to children. The higher English branches of study, such as natural history, human physiology, physical geography, etc., contain many useful things which children can understand, if presented in a simple and proper manner.

Introduce books containing such matter into our schools, and secure competent teachers, and the exercise in reading will become the most interesting and instructive one in school; and the scholars will gain skill in reading and become well grounded in the rudiments of the sciences, in less time than would be required to learn either by the old method.—*Eliza H. Morton, in the Maine Journal of Education*.

2. THE NEGLECTED LUXURY OF SPELLING.

Dickens in "Our Mutual Friend," when describing the number and variety of begging letters which, upon coming into his fortune, the owner of Boffin's Bower received, remarks with one of his inimitable strokes of humour: "Among the correspondents were several daughters of general officers long accustomed to every luxury of life except spelling." Now, I fear that the sarcasm with which our English author demolishes at a blow the false pretences of these young ladies would not by any means secure the like conviction in our country, for I have known bona fide daughters of general officers in America, who, if their title to the position depended upon correct spelling, would disgrace it every time they took pen in hand.

This was not so in the old time before us. Our grandmothers knew how to spell. Among their school exercises, besides the ordinary daily lessons, there were what might be called *field days* for the practice of the then honoured art. The scholars dividing into two parties ("choosing sides," as it was called), were ranged in lines facing each other. The words were then given out, and the lively contest of "spelling down" began. Each one who missed a word was obliged to fall out of line and take his seat, until by degrees only a few champions remained on either side; the high honour of standing alone occasionally falling to a single individual. Of course the match was won by the side which exhibited the greater number left standing when the lesson was finished. This was only one of several devices to secure attention to this humble and elementary, yet most important branch of education.

But now, alas! in the matter of orthography we have fallen upon evil days. The good practices above described exist to some extent still, in a few country schools, perhaps, but in general they are falling more and more into neglect. Much of our modern culture is merely for show, and under the thin tinsel of supposed acquirements in other languages lie strange deficiencies in the knowledge of our own.

In our schools, generally, too little importance is attached to the study of orthography. No pains are taken to secure its being taught; and, in fact, one would think, to examine the programme of studies, that now-a-days children had grown so clever that what used to take time and labour to teach would come to them by a sort of instinct.

In support of the assertion that attention to spelling is woefully

neglected in these days, I will cite the following fact: Within a week I have received two letters, the one from a middle-aged country woman, living at an obscure place called Bean's Corner, in the State of Maine. She has probably but the slightest pretension to what in these days is called education, and yet her letter has not a single misspelled word in it. The second letter alluded to is from a descendant of one of the oldest and best families in America, a lady of many accomplishments and high culture, and yet her letter exhibits several gross mistakes in the spelling of words of common every-day use.

Apropos of this subject, a friend tells me that he knew a young man of excellent family and social standing, who was engaged a short time since as a book-keeper in a retail grocery. His penmanship was admirable, his arithmetic adequate to the position, and yet "eggs" were transformed by him into "edges," "pails" into "pales," "pepper" into "peaper," with many other equally atrocious perversions of orthography, until the end of the first week brought the notice that his services would not be required for a "spell."

The same friend informs me that he once attended a course of lessons in penmanship by one of the foremost teachers in this country, whose copies were so often misspelled that they furnished a fruitful subject of ridicule on the part of the pupils.

Perhaps the following Lament, found in the portfolio of a maiden aunt, may amuse your readers, and serve as an appropriate ending to this "scold" about the wretched spelling of these degenerate days:

My dear nephews have all passed through college,
And their sisters of school honours tell,
But, alas! amid all their fine knowledge,
There's not one of them knows how to spell.

You would think Jim as learned as a Rabbi,
His collection of books could you see,
Yet he writes home from France that an "Abbey"
Is teaching him French "à Parfé."

Pretty Fan, who has gone on to Venice,
Into raptures at everything flies,
But especially glowing her pen is
When describing the famed "bridge of size."

With Donald and Duncan, twin darlings,
Spelling fares no whit better I fear;
For they write me that soon at McParlins,
They will enter a "business career."

Yet these are all children of mothers,
Who in days that are gone would surpass,
In the triumphs of spelling, all others,
Standing off'nest the head of the class.

3. PRIMARY LESSONS IN BOTANY.

I would introduce the study of botany to a class of pupils in this way: Taking a simple plant in my hand,—a year-old apple-tree would be a good specimen,—and presenting it before the class, ask:

Teacher. "What is this?"

Pupils. "A stick; a switch; a little tree; a plant." (I would endeavour to bring out the latter answer, *plant*.)

T. "What is this?" (pointing to the root.)

P. "Root."

T. "What is this?" (touching the axis or stem.)

P. "Stem."

T. "What are these?" (pointing to the leaves.)

P. "Leaves."

T. "What is this plant made up of?"

P. "Root, stem, and leaves."

T. "How does the root differ from the stem?"

P. "The root grows under ground and the stem above ground."

T. "Do roots sometimes grow above the ground? The roots of the corn are above the surface. Have you seen them?"

T. "Do stems grow under ground sometimes?" Here speak of the plants that grow under ground, such as the potato, etc.

T. "Do you see any joints on this root? Are there any leaves on the root? Here call attention to the place of the leaves. Strip off some of the leaves and then show the *place* on the stem where the leaves grew, and compare the stem thus stripped of leaves, with the root, and show that the stem grows by a regular succession of joints, while the root has no joints, no leaves, and no *place* for leaves.

The characteristics of leaves, as differing from root and stem, are easily made.

The *plant* is a type of the vegetable world, and the plant consists of root, stem, and leaves. The root, the stem, the leaf, may each assume a great variety of forms.

To illustrate: Take a leaf from a book. Let the pupils see you tear or cut it from the book.

T. "What is this?"

P. "A leaf."

T. "What is this?" rolling the paper in the form of a cylinder or cone.

P. "A leaf."

Then let the teacher tear or cut the upper margin of the leaf into lobes, and then roll together. Then roll the paper into a solid cylinder, then dip it into ink, or some colouring matter; *talk* of its being colored, red or blue or yellow, if you do not actually colour it,—continually asking, as you make a change in the form or colour, "what is this now?" Thus develop the fact that the leaf may assume a great variety of forms and colour; but it is a *leaf* nevertheless. On the stem you may find a bud; present this to the class and ask:

T. "What is this?"

P. "A bud."

Let the pupil examine it; ask him to pull it to pieces, and so direct him that he may discover that the bud is a collection of leaves on a short stem; that a bud is stem and leaves. Take a piece of elastic cord and some bits of paper cut in the form of leaves; make a hole in each of the pieces of paper, and then string them on the cord, quite close together; secure each piece to its place on the cord, with a bit of sealing-wax or some mucilage,—this may represent a bud. Now, take hold of the ends of the cord and stretch it, the leaves will be separated more widely from each other, and we shall have a *branch* or a *developed* bud.

Teach that the bud develops into a branch by elongation of the stem and enlargement of the leaves, and not by an increase in the number of leaves.

Some buds do not develop into ordinary branches, but into flowers. Show that a flower is a collection of developed leaves upon a short stem or axis. Call attention to the fact, before stated, that the peculiarly shaped and coloured parts of the flower (sepals, petals, stamens and pistils,) are only leaves. Then call attention to the place of the bud. Let the pupil discover that the bud is always between the leaf, or the leaf scar, and the stem.—*Chicago Schoolmaster*.

4. PRACTICAL AND APPLIED SCIENCE,—AN IMPORTANT QUESTION.

Among the most important of the questions which have agitated our Dominion during the past year, are the building of railroads and the development of our mineral resources. Hitherto we have quietly waited for our territories to be settled as best they could, thinking that afterwards we could build railroads. No man ever wishes to cultivate even the best of land if he cannot get the produce to market, so that if we ever expect to get our lands settled, we must do as our neighbours have done,—build railroads. Emigration will succeed, but not precede this enterprise, and it is well for us that the subject is at last being agitated here.

On the other hand, look at our mineral resources. The rocks of our Dominion are

"Un vaisseau freté pour l'avénir
Et richement chargé."

Pour l'avénir certainly, for hitherto we have left them well nigh undisturbed. During the past year, however, owing to the high price of ores abroad, we have begun to wake up to the fact of our having inexhaustible supplies. New mineral lands have been discovered, old ones have changed hands, and in a number of instances mining operations have been begun.

The question then arises, if we are to build railroads and develop our mineral resources, have we in Canada men competent to do the work? Some such we undoubtedly have, but the number is far too small, and, if much work is to be done, we must either train up men for it or import them from abroad. Undoubtedly the former is the better method. Men born and brought up in a country, provided they have means of education, are better fitted than strangers to cope with the difficulties peculiar to that country. Moreover, if we import men from other countries we cannot, as a rule, expect to get their first, but simply their second or third rate men.

What then is being done by way of training men here? A College of Technology has been established at Toronto on a broad scale and has been highly successful. Besides a "Department of Practical and Applied Science" has been instituted in connection with McGill College. For this latter we may thank Principal Dawson, and a few worthy citizens. Courses of study in McGill College extending over three years, are afforded in

- (1). Civil and Mechanical Engineering.
- (2). Assaying and Mining.
- (3). Practical Chemistry.

Most assuredly any one who has an interest in the advance of our Dominion, any one who wishes to see Canada take a high place among the nations, will wish well to the institutions just mentioned. We live in stirring times, times in which even great nations must needs put forth strenuous exertions in order not to fall behind, and surely if our infant Dominion is ever to become great, we must tenderly foster everything which tends to make it great. We must wish well to its educational institutions, but we must do more, we must give them substantial support.

5. OPENING SCHOOL.

The first day of school is an important one to the teacher; for his success or failure depends upon the arrangements made that day. In order to have clear ideas of what is to be accomplished, to lay plans systematically, and to enter upon his work in earnest, it is necessary to obtain, if possible, some knowledge of the condition of the school before attempting to classify it. There are so many things that require immediate attention, so many important decisions to be made, all of which demand prompt and energetic action, that it is absolutely impossible to decide them all in the most desirable manner, without some forethought; consequently, it is highly important to the success of the teacher that he become acquainted beforehand with the wants of the school. If he neglect to do this, he is apt to make serious mistakes, and, not having any plan to work by, is wavering and doubtful how to proceed. This the children perceive, and form their opinion of the teacher accordingly. A prompt, energetic teacher, one who can decide a question in the best manner instantly and finally, cannot fail to secure the respect and confidence of children.

The first thing to be accomplished in opening school is to make a good impression. This can be done by talking in a friendly manner to the children; telling them some little story, or explaining to them the object of attending school. Nothing can prove more injurious to a school than for the teacher to assume a commanding, arbitrary manner, showing the rod to intimidate the children, and using threats to enforce obedience. The children immediately brace themselves up against such treatment, and secretly resolve to transgress the rules every chance they have; thus a spirit of rebellion is aroused in their young minds, which no after acts of the teacher can counteract.

I do not think it necessary to have many rules. A few strictly enforced are better than many violated daily. It is possible for a teacher to enforce rules in the spirit of kindness, and it is necessary for him to be firm and resolute, yet pleasant and cheerful. It is a poor plan to let the children do as they please the first week, and then undertake to control them. If the bars of order are once let down, under pretence of seeing what the children will do, and who are the leaders, it is not so easy to put them up again. The better plan is to insist upon having order, perfect order, the very first day; doing this, it will be comparatively easy to require it the whole term.

It is necessary for the teacher to enlist the affections of the children as soon as possible. When the scholars feel that their teacher takes an interest in them, and desires to please them, then they will take an interest in the school, love their teacher, and make progress in their studies. Respect, however, must precede love. Children generally form their opinion of the teacher the first day; in his manner that day is such as to secure their respect, then he will be likely to gain their love, and be successful in his labours.—

E. H. M.

III. Biographical Sketches.

1. THE REV. WM. RYERSON.

Died at his residence, in the Township of Onondaga, 13th Sept., the Revd. William Ryerson, aged 75 years.

The father of the Revd. William Ryerson, was born in the state of New Jersey, and was of Dutch extraction. He had four brothers, each of whom lived to an average age of one hundred years, and he himself died fifteen years ago aged ninety-four. He was an officer in the Prince of Wales' Volunteers during the American war; and at the close of the American Revolution he removed to New Brunswick, where he married and where his eldest children were born, and subsequently came to Upper Canada, and settled in the County of Norfolk in 1795, having obtained land there from the Government. Col. Ryerson had a large family of sons and daughters, several of whom have acquired celebrity in this country. The eldest, the Rev. George Ryerson, resides in Toronto, and is a Minister of the Catholic Apostolic Church, on Bay Street, in connection with the body founded by the celebrated Edward Irving. He has still

the appearance of a hale old gentleman although he must be more than eighty years old. Samuel, the second son, was a farmer in the County of Norfolk, and died many years ago. Elizabeth, who was married to the late Judge Mitchell, of Vittoria, is also dead. Mary was the wife of Col. Bostwick, of Port Stanley. The Rev. William Ryerson, was born in New Brunswick. The Rev. John Ryerson, now superannuated, has resided for some years in retirement in Brantford, and his son, the late Egerton Fisk Ryerson, Barrister-at-law and County Attorney of the County of Perth, is likewise dead. The Rev. Dr. Ryerson, of Toronto, is well and widely known; and the Rev. Edw. Ryerson, the youngest of the brothers, died long since. The Ryerson family may be considered an extraordinary one—certainly the most notable connected with the Wesleyan Methodist body in this country. All the brothers were Ministers of the Wesleyan Methodist Church, George, the eldest, alone excepted; and before and for several years after the time of the rebellion, they had more control over the religious body to which they ministered than all others beside. The system of itineracy which is peculiar to Methodism in its various phases brought the Ryersons into contact with the leading people of this Province from one extremity to the other. Victoria College, which may be said to have been founded by them, had no existence in their early days, nor had the University of Toronto. Indeed the country was wholly without the adequate agencies to afford anything more than the most elementary instruction to the young. But the Ryerson brothers achieved distinction in spite of all obstacles. Gifted with great natural powers and mingling with all classes in the discharge of their professional duties, they reached a degree of culture surprising under the circumstances. As popular preachers they have rarely been equalled, and probably never excelled in Upper Canada, and as a public writer and controversialist, the Rev. Egerton Ryerson, the Chief Superintendent of Education for Ontario, is pre-eminent. The deceased, however, was esteemed the most eloquent of all the brothers—was indeed regarded by the powerful and respectable religious body to which he belonged as the orator of the family. Those who knew him in his best days describe him as a man of extraordinary intellectual vigour and of great originality of thought and illustration. His style was fervid and impassioned, although not always elegant and correct, and his appeals to the sympathies of his auditors are said to have been most powerful and impressive. Years ago he retired from the active duties of the Ministry to his beautiful farm on the banks of the Grand River—one of the most charming spots in the County of Brant. There he occasionally ministered in a mission church hard by to a congregation consisting of his neighbors and immediate friends, and there, if you chanced to call upon him, he would entertain you for hours with anecdotes and events connected with the past history of the country. He was familiar with all the leading men of forty or fifty years ago—knew the Hagermans, the Joneses, the Baldwins, the Sullivans,—indeed every man of eminence in the country. His conversation was most instructive and interesting, and like that of Coleridge, seemed to be exhaustless. He was converted in 1815, entered the active service of the ministry about 1820. He was induced, some years ago to contest the West Riding of Brant in the Conservative interest, and succeeded in defeating Mr. Biggar, the Reform candidate. His Parliamentary career was brief, he entered the political arena too late in life to achieve distinction.—*Brant Expositor*.

2. T. C. STREET, Esq., M. P.

Mr. Street was the son of the late Samuel Street, Esq., and, at the time of his death, was 58 years of age. He had four sisters, one of whom is the wife of the Rev. Dr. Fuller, Archdeacon of Niagara. He was educated for the bar, though his property rendered it unnecessary for him to practise his profession. He was an active politician, early taking his place in the Conservative ranks, a position which he kept till the day of his death, and no man could be more true to his principles, while at the same time in dealing with his constituents, all parties will bear testimony to his practice of his principles, that he represented the whole of his constituency, and not merely that part which gave him the heartiest support. Mr. Street's first essay in political life was in 1851, when he was elected for the old Parliament of Canada. In 1854 he was defeated by Dr. Frazer, but in 1861 was returned by a considerable majority, and has continued as our representative from that time until the present, having been returned at the first elections under Confederation in 1867, by acclamation, and at the late general election getting a renewal of confidence by a very large majority. Mr. Street was most deservedly a popular man, for, upright in all his dealings, fearless in his integrity, one who was never known to descend to a mean action to further his own purposes, or allow his influence to be used for an unworthy object, he commanded the respect of every

one, and friend and foe alike joined in giving him that highest of all praise, credit for strict honesty and honourable motives. On account of his wealth he was frequently applied to for assistance in pecuniary matters, and he was always known as indulgent with those who shewed an earnest desire to meet their just obligations, and many a thriving farmer in this County, will remember him in past days as one of their kindest of creditors, indeed more of a helper and counsellor than aught else. — *Welland Telegraph*.

3. MRS. PEARCE.

The late Mrs. Pearce, whose maiden name was Edmunds, was born in Brownville, Jefferson County, State of New York, May 29th, 1815, and came with her parents to Canada not very long afterwards. Most of her youthful years were spent in the family of her uncle, the late Mr. Keeler, of Colborne, under whose direction she came a settler to this township in 1835. She was married to Mr. Pearce, then in charge of her uncle's mill, May 29th, 1837, and took up her residence adjacent to the old mill, known to the early settlers as Keeler's Mills, and immediately commenced that long reign of whole-souled, warm-hearted, generous hospitality, which has made her name as a household word throughout all this section of the country. In the early days of our township history, when places of entertainment were few and far between, her house was often a resting-place for the weary and benighted traveller, and no one, however poor or unprepossessing, was sent cold or hungry away from her door. Especially to the Ministers of the Gospel, of all denominations, was her hospitality shown. Many of those pioneer preachers have gone home to their reward, but a few still linger on, and cherish the fondest remembrance of the welcome smile and the warm grasp of the hand that always met them as they crossed her threshold after their weary journey through the back woods. One of these, the venerable Father Sanderson, came all the way from Peterborough to attend her funeral, remarking to an acquaintance who expressed surprise that he should be able to come so far, "She was such a friend, that I could not stay away." She was peculiarly a home woman. Home was her theatre of action, her pedestal of beauty, her throne of power. She was not often seen abroad, and then almost always on some errand of love or mercy. She was always ready to enter, and as reluctant to leave, the abode of misery. It was frequently her office, and lovingly was it always performed, to stay the fainting head, wipe from the dim eye the tear of anguish, and from the cold forehead the dew of death. Though nearly always at home, yet she had a large circle of friends, and exerted a wide influence for good. It was the influence of an open, willing, visible example, enforced by that soft, persuasive, colloquial eloquence which is like the noiseless but balmy influence of spring. The last decade of her life was spent at Havelock, in the township of Belmont, making home happy for her family, and taking affectionate care of an aged and helpless mother, who still survives her.

Thus died, and was buried, another of that little band of brave men and women, who, amid great hardships and difficulties, succeeded in laying the foundation of our now prosperous settlements. It is only fitting that we should revere their memory. — *Peterborough Review*.

4. MR. MARCUS HOLMES.

Deceased, who was an American by birth, came to London in 1832, then a small village. He was a blacksmith by trade, and opened a shop on King Street. He soon added the manufacture of carriages and waggon to his business, and acquired considerable property, and many years ago retired from active life, to enjoy the competence accumulated. He was for some time a member of council of the then Town of London, and in 1854 succeeded Mr. Murray Anderson as Mayor. — *London Herald*.

5. "FANNY FERN."

"Fanny Fern," a writer of short essays of considerable merit, is much better known to the world under that name than by her own, Sara Payson Willis, she being a sister of N. P. Willis, the poet, and wife of James Parton, a biographer. Her death took place at her residence in New York, on Thursday evening, in the sixty-first year of her age. She was born in Portland, Me., in 1811. While still a small child her father removed with his family to Boston, and in that city she spent her early years. She was educated in Hartford, Conn., by Miss Catherine Beecher, who considered her a clever and capable, but not a brilliant girl. While still very young she married Mr. Eldridge, of Boston, and in 1850 she was left a widow in straitened circumstances, with three children. To support herself and little ones she began to write sketches for the Boston weeklies, under the name of "Fanny Fern." She became famous at a single bound, and her pseudonym is now as familiar as a house-

hold word. In 1856 she was married to Mr. James Parton, and since that time her writings have not been voluminous. It is said that Mr. Bonner has paid her the magnificent sum of \$150,000 for her contributions to the *Ledger* alone. Mrs. Parton had been afflicted for many years with inflammatory rheumatism. She has been able to ride about, however, and walk about in her garden—she was an ardent admirer of flowers—until this fall. She passed last summer at her villa in Newport. Her right arm was so affected as to be powerless, and she has not left her room since her return to the city. She was forced to sit in an easy chair, her arm being supported by a frame. To lie down caused intense pain and a difficulty in breathing. In this chair, where she has sat for two months, she died, surrounded by loving friends, and her eyes resting on the beautiful flowers which were her comfort in life. — *Gazette, Montreal*.

6. J. F. MAGUIRE, Esq., M. P.

The death is announced of Mr. John Francis Maguire, one of the most able of Irish members in the British Parliament. He had been for many years proprietor and editor of a newspaper published in Cork, and was a strenuous defender of Roman Catholic interests at home and abroad. A work published by him on the state of the Papacy and of the territories under its sway, to which he appended some valuable statistics bearing on the temporal and financial condition of the state of the Church, gained for him honours at the hands of the Pope. Mr. Maguire was the author of several other works, principally relating to Ireland and the Irish, and he took a leading part in promoting Irish industries, being a prime mover in the introduction of the linen industry into Cork. He was only 57 years of age. It can truly be said of the deceased gentleman, that his services in advocating the claims of Ireland in the British Parliament will be much missed, and that in Mr. Maguire Ireland loses one of her most able statesmen.

7. SKETCH OF CAPTAIN JOSEPH BRANT.

John Brant's Death.—In the year 1832, he was returned a member of the Provincial Parliament for the County of Haldimand; but as a large number of those by whose votes he was elected, held no other title to their lands than long leases, conveyed to them by Indians, his return was contested by the opposing candidate, Colonel Warren, who was declared chosen.

But it mattered not which should, for a short season, wear the Parliamentary honours. Death soon laid both low. The desolating cholera swept fearfully over the country of the Great Lakes, cutting down, in the prime of manhood, and just as a bright and brilliant career of usefulness promised future service and honour, this noble, this proud example of what civilization and letters can do for a son of the American forest!

On the death of her favourite son John, the venerable widow of Joseph Brant, pursuant to the Mohawk law of succession, conferred the title of *Tekarihogea* upon the infant son of her daughter—Mrs. Kerr. This son, Simcoe Kerr, still lives on the old homestead at Wellington Square, the recognized head Chief of the Six Nation Indians.

The widow of the late old Captain died at Brantford, on the Grand River, the 24th November, 1837, thirty years to a day from the death of her husband. Her age was 78. Dignified and stately in manners, tall and handsome in person, she well merited the title of "the Indian Princess."

Brant's Personal Appearance.—General P. B. Porter describes Brant as "distinguished alike for his address, his activity, and his courage, possessing in point of stature and symmetry of person, the advantage of most men, even among his own well-formed race—tall, erect, and majestic, with the air and mien of one born to command. Having, as it were, been a man of war from his boyhood, his name was a tower of strength among the warriors of the wilderness."

His Manners were affable and dignified, avoiding frivolity as one extreme, or stiffness on the other. Not noted for eloquence, his power lay in his strong, practical good sense, and his deep and ready insight into character.

As a Man of Rule.—The Rev. John Stewart represents "his influence to have been acquired by his uncommon talents and addresses as a councillor and politician, by which means he subdued all opposition and jealousy, and at length acquired such an ascendancy that, even in the hour of action and danger, he was enabled to rule and direct his warriors as absolutely as if he had been born their general."

As a Warrior.—He is represented as brave, cautious, and sagacious. His constitution was hardy, and his capability of endurance great, his energy untiring, and his firmness indomitable. In his business relations he was prompt, honourable, and a pattern for integrity. — *From New Dominion Monthly for November*.

IV. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for SEPTEMBER, 1872.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—J. M. Buchan, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., L.L.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.																
	ELEVATION. ft.	MONTHLY MEANS.					RANGE.					MONTHLY MEANS.					DAILY RANGE.					HIGHEST.					LOWEST.		WARM- EST DAY.		COLDEST DAY.		MONTHLY MEANS.				
		Above the Lake.	Above the Sea.	7 A.M.	1 P.M.	9 P.M.	MEAN.	Highest.	Date.	Reading.	Date.	Monthly.	Greatest in 24 hours.	Date.	MONTHLY MEANS.					DAILY RANGE.					Highest.	Date.	Reading.	Date.	Mean Temp.	Date.	Mean Temp.	Date.					
															Mean Maximum.	Mean Minimum.	Mean Range.	Date.	Least.	Date.	Reading.	Date.															
Pembroke.....	45° 50' 77' 10"	423	29-271	29-253	29-266	29-2634	29-000	9 p.m.	14-28-925	7 a.m.	19	684	296-13	14-07-2	43-8	58-8	59-8	71-1	51-2	19-9	33-5	5	7-9	30	87-3	7	37-5	510-3	71	74-93	8	48-84	468	597	485	517	
Cornwall.....	45° 0' 14' 50' 137"	176	29-766	29-7519	29-7562	29-7532	30-026	1 p.m.	23-29-408	1 p.m.	19	618	331-19	20-65	50-65	38-58	22-60	70-68	32-49	19-19	28-0	4	7-7	30	88-8	7	38-3	443-5	71	78-03	28	48-97	404	445	430	426	
Barrie.....	44° 25' 79' 45' 59	779	28-610	28-3927	28-6407	28-5581	29-100	7 a.m.	14-27-563	1 p.m.	7	1-5237	6-47	7-	57-11	67-74	56-28	60-38	72-25	47-88	24-40	0-6	2	12-9	12	94-1	7	35-5	3-58	6-7	82-27	27	48-50	411	456	400	425
Peterboro'.....	44° 30' 78' 25' 72	670	29-2419	29-2244	29-2329	29-2318	29-514	7 a.m.	14-28-892	7 a.m.	19	622	460-13	14-54	23-70	68-53	18-00	78-91	45-51	35-50	38-6	16	14-8	20	96-7	7	35-4	21-60	3-7	78-06	27	51-06	412	461	455	409	
Belleville.....	44° 10' 77' 52' 72	807	29-6671	29-6408	29-6366	29-6490	29-927	7 a.m.	14-30-394	7 a.m.	19	693	436-13	14-55	82-05	64-58	48-50	68-03	51-17	45-27	0	21	9-8	19	84-7	7	37-7	21-47	0	75-70	30	50-98	411	446	438	481	
Goderich.....	43° 45' 81' 42' 43	715	29-1991	29-1902	29-1868	29-1920	29-462	7 a.m.	14-28-846	7 a.m.	19	716	515-19	20-65	50-65	38-58	22-60	70-68	32-49	19-19	28-0	4	7-7	30	84-4	7	38-2	23-49	7	77-03	27	47-57	436	438	434	453	
Stratford.....	43° 25' 50' 58' 90	1182	28-7145	28-6973	28-7126	28-7081	29-041	7 a.m.	14-28-846	7 a.m.	19	692	500-19	20-55	61-64	50-81	38-62	67-37	50-06	17-31	27-6	4	9-2	19	84-4	7	38-2	23-49	7	77-03	27	47-57	436	443	413	423	
Hamilton.....	43° 12' 79' 50' 90	824	29-3994	29-3726	29-3654	29-3644	29-919	7 a.m.	14-28-3117	7 a.m.	19	688	507-19	20-53	76-67	43-60	31-69	30-74	24-54	11-18	24-9	13	7-2	11	91-8	8	37-8	23-54	7	78-18	28	50-9	441	456	447	468	
Simcoe.....	42° 51' 50' 14' 50	715	29-0113	28-9924	28-9828	28-9957	29-291	7 a.m.	14-28-965	7 a.m.	19	636	.....	.....	50-65	28-00	16-01	67-72	71-51	31-35	23-5	3	8-5	3	84-7	9	36-0	26-48	7	80-37	28	48-73	434	456	475	481
Windsor.....	42° 30' 58' 00' 00	670	29-3373	29-3246	29-3218	29-3279	29-973	7 a.m.	14-29-017	9 p.m.	18	656	466-10	20-59	66-71	49-60	34-03	70-74	30-52	42-22	34-7	4	7-1	80	95-0	6	35-0	23-62	0	81-93	27	48-47	425	468	447	447	

Approximation. dOn Lake Simcoe. cNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. A On Lake Ontario. t On the Ottawa River. i Close to Lake Erie. m On the Detroit River. k Inland Towns.

STATION.	HUMIDITY OF AIR.			WINDS. NUMBER OF OBSERVATIONS.										ESTIMATED VELOCITY OF WIND.			AMOUNT OF CLOUDINESS.			RAIN.		SNOW.		AURORAS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	7 A.M.	1 P.M.	9 P.M.	MONTHLY MEANS.										7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.	9 P.M.	MEAN.	7 A.M.	1 P.M.

N. W. to S. E., with much thunder and very vivid lightning. Very heavy rain storm also on night of 7th, and morning of 8th, with a great deal of thunder and lightning. Gale all day from S. W., 29th. Month remarkable for unusually large amount of rain, as stated in table above.

STRATFORD.—Lightning and thunder with rain, 5th, 8th, 9th, 12th, 17th, 18th, 22nd, 23rd, 26th. Lightning, 6th, 7th. Thunder, 22nd. Hoar frost, 3rd, injuring tomato, cucumber and melon vines. Wind-storm, 18th, 25th, 26th, 28th, 29th. Fogs, 4th, 5th. Rain, 4th, 5th, 6th, 8th, 9th, 12th, 13th, 17th-19th, 22nd, 23rd, 26th, 29th, 30th. Excess of mean monthly temperature over average of eleven years, $+1^{\circ} 80$.

HAMILTON.—Lightning, 6th, 7th, 23rd. Thunder with rain, 22nd. Lightning and thunder with rain, 5th, 10th, 12th. Wind-storms, 21st, 25th. Fogs, 6th, 9th. Rain, 4th, 5th, 6th, 8th, 9th, 10th, 12th, 18th, 19th, 22nd, 23rd, 25th, 26th, 29th. Some red leaves seen on 4th.

SIMCOE.—Lightning, 7th. Lightning with thunder, 23rd. Lightning and thunder with rain, 5th, 10th, 12th. Wind-storm, 26th. Rain, 5th, 7th, 9th, 12th, 13th, 18th, 19th, 20th, 23rd, 26th, 29th, 30th. Harvest on the whole abundant, although the crops were much injured by the copious rains of August. Fruit and vegetables abundant.

WINDSOR.—Lightning with thunder, 5th, 7th. Lightning and thunder with rain, 8th, 9th, 12th, 22nd. Meteor through *Ursa Minor* to *Ursa Major*, 5th. Halo, 11th, 16th, 18th. Frost, 16th, 20th, 27th, 28th. Wind-storms, 8th, 18th, 19th, 22nd, 24th, 26th, 29th. Rain 4th, 5th, 8th, 9th, 11th, 12th, 17th, 18th, 19th, 22nd, 25th, 29th.

2. METEOROLOGY IN CANADA.

The increasing interest in the study and development of the science of meteorology and its importance and bearing on our Maritime and Agricultural prosperity has induced us to furnish to our readers a daily bulletin from eleven distant points of observation on this continent. Those from the United States are furnished by the signal office of the War Department at Washington, and those by the Dominion are collected at the Central Observatory at Toronto, and are despatched by telegraph to Dr. Smallwood, director of the Observatory here. We soon hope to see a signal storm drum erected also in connection with this physical science, and while the Dominion Government have with a liberal hand furnished the necessary funds for collecting from these distant points the necessary information, it becomes as a necessity incumbent on any locality which may desire to utilize the information, to permit the necessary funds for that purpose, which is but trifling compared with the results. We soon hope to see, as the system becomes extended, our own "weather probabilities" furnished us daily by observers in the Dominion as well as those in the United States.

V. Mathematical Department.*

1. To the Editor of the Journal of Education.

"Interest that is interesting."—A. lends B. \$1,000 payable in ten annual instalments of \$160 each. What rate per cent. simple interest, does B. pay for his money?

Mr. Cameron, in the *Journal* for April 1872, says, "a majority of the commercial men of a Western Town, thought 10 $\frac{1}{2}$ to be the answer;" and adds that they are right according to text-book principles; but the true answer according to his calculation is 21 $\frac{3}{4}$. Now, in justice to the authors of our arithmetics, we must say that neither of the foregoing answers, is either correct or "in accordance with text-book principles." The following simple method of solution, will suffice to give our readers a correct idea of the disputed question.

$160(1 + 2 + 3 + \&c. \dots + 10) - 600 = 8200$
 $\therefore 8,200 \div 1,600 = 5\frac{1}{4}$ years, the equated time for all the payments. The question is then: At what rate per cent. simple interest will \$1,000 amount to \$1,600 in $5\frac{1}{4}$ years?

As $1,000 \times 5\frac{1}{4} : 100 \times 1 :: 600 : 11\frac{3}{4}$, the correct rate at simple interest. The rate at compound interest, is found by the following method:

$$\text{Log. } A - \text{log. } P.$$

$$5\frac{1}{4} \text{ or } \frac{11}{2} \sqrt[11]{A - 1} = r \text{ or Log. } (1 + r) = \frac{t}{10} \\ \text{or Log. } (1 + r) = .039828; \therefore (1 + r) = 1.09607, \text{ and } r = .09607.$$

Therefore the rate at compound interest = 9.607. These are the correct answers, and "in accordance with text-book principles."

MATHEMATICAL EDITOR.

2. To the Editor of the Journal of Education.

SIR,—I noticed in the April number of the *Journal of Education* the solution of a question in interest by Mr. Cameron; and in the June number two criticisms on the same. Neither of the critics,

* Communications for this Department are to be addressed to Mr. Andrew Doyle, Hamilton.

however, has given a solution of the question, or pointed out the error of Mr. Cameron's method. The fallacy lies in the fact that Mr. Cameron's formula does not recognize the payment of any interest. The payments are all principal, and as such are deducted successively from the principal. Thus it happens that at the end of the time, the principal is largely overpaid, and the interest all standing unpaid. Suppose the annual payment to be \$500 instead of \$160. "Very hard terms for B.," any one would say, who had not been initiated into the mysteries of Mathematics. Not at all. On the above supposition, the (by the formula) negatives or overpaid principal will be in 10 years \$4000, and the negative interest will largely exceed the positive; or A will be B's debtor for the full amount that B has paid him above the original principal, viz: \$4000, and the excess of the negative over the positive interest.

Surely this reckoning would land not the borrower, as Mr. Scudamore thinks, but the lender in the bankrupt court.

The method sanctioned by custom and equity is: Whenever a payment is made, to deduct the interest then due from the payment, and apply the remainder on the principal. Represent \$1000 by a , and \$160 by $\frac{4}{25}a$; then the first year's interest will be ar .

$$\text{The second year's interest} = \frac{21}{23} ar + ar^2$$

$$\text{The third year's interest} = \frac{17ar + 46}{25} ar^2 + ar^3 \text{ etc.}$$

$$\text{The 10th year's interest} = -\frac{11}{25} ar + \frac{81}{25} ar^2 + \frac{564}{25} ar^3 \\ + \frac{1596}{25} ar^4 + \frac{2746}{25} ar^5 + \frac{3014}{25} ar^6 + \frac{2056}{25} ar^7 + \frac{864}{25} ar^8 \\ + \frac{221}{25} ar^9 + ar^{10}.$$

$$\text{The sum of this progression or the whole interest} = \frac{70}{25} ar + \frac{645}{25} ar^2$$

$$+ \frac{2160}{25} ar^3 + \frac{4342}{25} ar^4 + \frac{5760}{25} ar^5 + \frac{5070}{25} ar^6 + \frac{2920}{25} ar^7 + \frac{1085}{25} ar^8 + \frac{246}{25} ar^9 \\ + ar^{10} = 600. \text{ Substituting the value of } a, \text{ transposing, \&c., we get } 25r^{10} + 264r^9 + 1085r^8 + 2920r^7 + 5070r^6 + 5760r^5 + 4342r^4 \\ + 2160r^3 + 645r^2 + 70r - 15 = 0. \text{ The value of the first four terms may be rejected, and the remaining equation solved gives } r = .0960699.$$

I remain,

Your obedient Servant,

J. RYERSON.

Waterford, Sept. 18th, 1872.

ANSWERS TO CORRESPONDENTS.—Mr. John Ireland says he has not seen a solution of his "Indian Reserve" question. We refer him to the June number in which he will find a correct solution by Mr. Scudamore. If the question take the form, Find a line which, with three given lines, will contain the greatest area; the line sought must be the diameter of the semi-circle in which the three given lines are inscribed.

Mr. Jos. P. Taylor.—The sum of the squares of any two quantities equals twice their product plus the square of their difference.

R. Cooley.—Your communication shall receive due attention when we receive other solutions to the problems now published.

We respectfully inform our mathematical correspondents that, in future, we will give a list of their names with the numbers of the problems which they solve correctly. We will also publish the best solution of each problem proposed. In proposing new questions, avoid as much as possible, those which require the use of diagrams.

VI. Miscellaneous.

1. INDIAN SUMMER IN CANADA.

BY E. H. NASH.

A stillness now pervades the air,
 A mournful calm is everywhere;
 The winds that stripped the forests gay,
 The autumn winds have died away.
 Awhile they raved o'er mountain and dale
 In fitful gusts, with moaning and wail,
 But now they are hushed, they are stilled at length,
 As if awed by the works of their own great strength.
 Mildly the sun looks down to earth
 His summer brightness fled;
 As though his eye were dimmed by grief
 For nature's beauties dead.

From the leafless forests the songsters fly
As if warned by a dread desolation nigh;
And the murmur of waters, unstirred by a breath,
Is sad as the music that tells us of death.

A sound to break this stilly calm
Would fall upon my ear
Discordant as the tones of mirth
When sorrowing souls are near;
Would seem as the strains of a joyous song
To the heart of a watcher, watching long;
As the noisy speech or the heavy tread
In the darkened chamber where sleeps the dead.
—*New Dominion Monthly for November.*

2. POLITENESS IN SCHOOL.

It will always bring a rich reward of respect to be polite to your pupils. Children relish and appreciate an "if you please" and a "thank you," and it adds to their self-respect, without which there is no true worth. Give your example to your precepts. Children can detect sham as well as grown people, and will often notice inconsistencies in walk and conversation that older people might pass unobserved. The successful teacher will have few rules, and respect them himself. The best is one that children can easily understand, viz.: "Do right." Explain what is right on different points, and impress on the children's minds that God always sees them, though the teacher may not. Talk to them often about their accountability for the gift of intellect, and you will be surprised at the display of conscientiousness! Encourage their little confessions at each evening's report, and you will see more bright faces than if truth were sacrificed, and the children sent home with ill-gotten rewards. Good government is the mainspring to success.—*Iowa School Journal.*

3. TACT

Love swings on little hinges. It keeps an active little servant to do a good deal of its fine work. The name of the little servant is Tact. Tact is nimble-footed and quick-fingered; tact sees without looking; tact has always a good deal of small change on hand; tact carries no heavy weapons, but can do wonders with a sling and stone; tact never runs his head against a stone wall; tact carries a bunch of curious-fashioned keys, which turn all sorts of locks.

4. A WORD TO BOYS.

Boys, did you ever think this world, with all its wealth and woe, with all its mines and mountains, oceans, seas and rivers, with all its steamboats, railroads and telegraphs with all its millions of groping men, and all the science and progress of ages will soon be given over to the boys of the present age—boys like you? Believe it and look abroad upon your inheritance, and get ready to enter upon its possession. The presidents, emperors, kings, governors, statesmen, philosophers, ministers, teachers, men of the future—all are boys now.

5. FAITHFULNESS TO EMPLOYERS.

There is no greater mistake a young man can commit than that of being indifferent to the interests of his employer. It is true there are circumstances under which it seems almost impossible to feel an interest in an employer's business; but for all that it is worth a trial. Be faithful in small things; be attentive to your duties; shirk no employment that your employer is fairly entitled to every minute of the time which you have agreed to give him for a stipulated remuneration. The wages may be small, too small; but if you have contracted to work for a dollar a week when your work is worth ten, stick to your bargain like a man, until your term of service has expired. It may seem very hard, but it will instil the great principle of being true to your word.

And, besides, you will gain a reputation for faithfulness and integrity and diligence which is worth more to a young person than thousands of silver and gold.

The good friend, who taught a boy the tanner's trade, when he was about to finish his apprenticeship promised to give him a present worth more than a thousand dollars. He carried the young man home and said: 'I will give thy present to thy father.' And then he turned to the father and said: 'He is the best boy that ever I had.'

That was the Friend's present, and the father confessed that it was 'worth more than a thousand dollars' for a boy to have and to deserve so good a name as that.

A good name is a fortune in itself; a good trade is another. If you earn but little try to *learn* a good deal. Your learning may be worth more to you than your earnings. Out of the hundred persons committed to States' prisons, only three have learned good honest trades. Ninety-seven persons *without trades* go to State prisons, when three persons *with trades* go there.

So wherever you are try to master your business; determine to know something; attend to what you are taught; and do thoroughly what you do at all. Finish what you begin. Put things back where you find them. Avoid dirt, disorder, and dissipation; resist the devil and submit to God, and blessed and saved, you shall serve him both now and forever.—*The Christian.*

6. YOUR EVENINGS, YOUNG MEN.

The historian Hilliard has said:—"To a young man away from home, friendless and forlorn, in a great city, the hours of peril are those between sunset and bed-time;" and we have no doubt many a young man will respond to this sentiment. It is then that the theatre throws open its doors, the drinking-saloon tempts by its glitter of lights and glasses; then the strange woman stalks abroad; then it is that your companions, tired of the day's labours, and seeking recreation, step beyond the line of rectitude, and cordially invite you with them. What must you do? Avoid temptation; but that is easier said than done. How do you do when you wish to avoid thoughts that trouble and unsettle you. You think of something else, and while you are reflecting upon other things, you are not thinking of your troubles.

Your duty then is plainly to *do* something—something that will put you out of the way of these temptations.

If you are happy enough to have a home, be found there as much as possible, and feel that you are bound to do something for the comfort and social life of that home. If you are in the city, boarding, then see that every evening is well occupied. Pass part of this leisure in reading or study, at your room, when it is possible. What fields of knowledge you may survey, and what acquaintance with the past you may make, by one or two evenings spent in this way every week! When you go out, as you certainly need to do, go to some lecture; visit some refined home, where woman's influence will soften you; connect yourself with some class or society where improvement is the motive. If you wish amusement, go where refinement will surround you, and where conscience will not reprove you; unite yourself with a Christian Association, and enter into its work, and be at the prayer-meetings. But do not feel that you can do without God's grace in your heart. All that we have mentioned is only secondary. Here is your armour.—*Association Monthly.*

7. READ AN HOUR A DAY.

An English paper tells of a lad who at the age of fourteen was apprenticed to a soap-boiler. One of his resolutions was to read an hour a day, or at least at that rate, and he had an old silver watch, left him by his uncle which he timed his reading by. He stayed seven years with his master, and said that when he was twenty-one he knew as much as the young sire did. Now let us see how much time he had to read in seven years, at the rate of an hour a day. It would be 2,555 hours, which, at the rate of eight reading hours each day, would be forty-five weeks, equal to twelve months—nearly a year's reading. That time spent in treasuring up useful knowledge, would pile a very store. Surely it is worth trying for. Try what you can do. Begin now. In after years you will look back upon the task as the most pleasant and profitable you ever performed.

8. ARCHBISHOP SUMNER ON OBSTACLES AND IMPROVEMENT.

It has been well said by the late Archbishop of Canterbury (Dr. Sumner), in his "Records of Creation,"—"Of all obstacles to improvement, ignorance is the most formidable, because the only true secret of assisting the poor is to make them agents in bettering their own condition, and to supply them, not with a temporary stimulus, but with a permanent energy. As fast as the standard of intelligence is raised, the poor become more and more able to co-operate in any plan proposed for their advantage, and more likely to listen to any reasonable suggestion, and more able to understand, and therefore willing to pursue it. Hence it follows, that when gross ignorance is once removed and right principles are introduced, a great advantage has already been gained against squalid poverty. Many avenues to an improved condition are opened to one whose faculties are enlarged and exercised; he sees

his own interest more clearly, he pursues it more steadily, and he does not study immediate gratification at the expense of bitter and late repentance, or mortgage the labour of his future life without an adequate return. Indigence, therefore, will rarely be found in company with a good education." (Fourth edition, Vol. 2, page 338.)

VII. Educational Intelligence.

—**MCGILL UNIVERSITY.**—The total number of students entered in the University up to the present date is two hundred and ninety. Of these 35 are students in Law, 158 students in Medicine, and 97 students in Arts. These numbers are considerably above those at the corresponding period of last session. Of the junior students previously announced as having taken exhibitions of the value of \$100 to \$125 in the Faculty of Arts, at the commencement of the present session, two were pupils of the Huntington Academy, one of the Clarenceville Academy, and one of the Shefford Academy. Two others who took similar distinctions had been under private tutors. Those who took the highest places in the matriculation examination were from the Montreal High School, the Iroquois Grammar School, Ont., and the Sunbury Grammar School, N. B. Of these two received free tuition Scholarships from the Board of Governors. The examinations for next year will be announced in the calendar for the present session, though it is possible that additional exhibitions and scholarships may be offered. It would be well that those who intend to compete in September next should prepare during the coming winter, and that teachers should keep in view the interests of their pupils in this matter.—*Montreal Gazette.*

—**QUEEN'S COLLEGE.**—We learn with much pleasure that Mr. James Russel, of Hamilton, has instituted a bursary or scholarship of Biblical knowledge in the University of Queen's College of the value of fifty dollars per annum, and has provided the means of payment of the same for the next three years. Mr. Russel has already proved himself a liberal benefactor to the educational institutions of his native county, Morayshire, Scotland, and now desires to do something in the same way for the land of his adoption. We trust Mr. Russel's liberality will stimulate others to go and do likewise. Mr. Shaw is the winner of the Russel Scholarship for the present session.—*Montreal Gazette.*

—**SOUTH HASTINGS TEACHERS' ASSOCIATION.**—The regular monthly meeting of the above Association was held on Saturday, 21st ult., commencing at half-past 10 o'clock, a.m. Mr. Inspector Johnston in the chair. After the usual routine of business had been disposed of, Mr. Gallivan occupied the chair while Mr. Inspector Johnston proceeded to analyze the first page of the first lesson in the 4th Book of National Series of Readers, rendering the most difficult parts perfectly plain and simple. These exercises in Analysis are certainly very valuable to the teachers, giving as they do a great deal of information on what is generally considered to be one of the most difficult subjects to teach well. Mr. Sanford Johnston then gave his method of teaching Mensuration of squares and parallelograms, giving the rules for finding the area, base, perpendicular, and diagonals, of each; also for finding the area, base, perpendicular, and hypotenuse, of a Right Angle Triangle, giving the reasons of the various processes employed, and demonstrating and illustrating each step. As time did not permit him to finish his subject, he kindly consented to take up the subject at the next meeting of the Association. It was evident to all present that Mr. Johnston is thoroughly master of his subject. Mr. Sprague then gave the method of teaching book-keeping to a class of beginners. He said he would at first teach them the difference between debit and credit, and make them thoroughly understand those terms before proceeding further, and he would exercise them in pointing them out from exercises which he would give them. He would make them thoroughly acquainted with every step taken, and illustrate and explain every term and definition given, and never leave any point until it is thoroughly understood by the whole class. He would then proceed to teach them to journalize,

and afterwards give them short sets upon the blackboard to be journalized on their slates. He said the chief difficulty was in teaching them to journalize correctly, and when this was once learned the greatest difficulty was overcome; he would then proceed to teach them to post and balance accounts on their slates; and he would keep them at the slate exercises for two or three months before putting them at the books. At the request of the President, Mr. Sprague gave a short set on the blackboard, suitable for a slate exercise. Mr. Gallivan then proceeded to his method of teaching how to average accounts, after which Miss Templeton proceeded to give her excellent method of teaching that very useful but much neglected subject, Composition; fully sustaining her reputation as one of our most successful and thorough teachers. An extract was read from a letter in the *Toronto Globe* of the 17th Sept., in which Prof. Bell charged Mr. Inspector Johnston with having made a false statement, when he said that not one Common School Teacher voted for the motion condemning Dr. Ryerson's Book on Agricultural Chemistry. The following motion was then submitted to the Convention:—*Resolved*, That we, the teachers of South Hastings, in Convention assembled, do hereby unanimously assent to the statement made by Mr. Inspector Johnston, with reference to the action taken by us on Dr. Ryerson's work on Agricultural Chemistry, viz., that not one Common School Teacher voted for the motion condemning Dr. Ryerson's book, and we regret to see a letter in the *Globe* of the 17th inst., charging Mr. John Johnston with a lack of adhering to truth in the matter. The next meeting will be held on Saturday, the 19th of October. Subjects—Analysis, by J. Johnston; Mensuration, by S. Johnston; Fractions, by J. Gallivan; Notation, by S. Pashley.—*Intelligence.*

—**HURON COLLEGE.**—This Institute, established by the Right Rev. Dr. Cronyn, late Bishop of Huron, was inaugurated by Bishop McIlvaine, on Dec. 2, 1863. On Bishop Cronyn's consecration to the Episcopal office, in 1857, he found that out of 188 townships in the 13 counties constituting the Diocese of Huron, not more than 30 were supplied with the ministrations of the Gospel, and to supply faithful ministers of the Church was the object sought to be attained by the establishment of this College. The Rev. Isaac Brock, M.A., of Queen's College, Oxford, the Principal and Divinity Professor, has been succeeded by the Very Rev. Dean Boomer, late of Galt, and the Rev. W. Henry Halpin, M.A., Trinity College, Dublin, is the Classical and Mathematical Professor. We visited the lecture rooms, the library and dormitories, and found 13 students in the College, 7 of whom were recently ordained in London by the Bishop of the Diocese. St. John's Chapel is situated near to the College, and is a very neat, churchly, and well constructed building. It will accommodate about 250 worshippers. There is a Sunday School connected with it, the attendance being from 40 to 50, under the superintendence of Mr. Joseph and Mr. Craig. On the left of the pulpit is a tablet, erected to the memory of General Thomas Evans, C. B., Colonel of H. M. 81st Regiment.—*Special Correspondent of the Church Herald.*

—**VICTORIA MEDICAL COLLEGE** just finished, at the corner of Don and Pine streets, was formally opened by the Rev. Wm. M. Punshon, LL.D., in presence of a large number of persons.

The building is an attractive one, situated on the south-west corner of Don and Pine streets. It is fifty-five feet in depth, and two stories in height, with a good basement the whole side of the building. The main entrance is on Don street, and on each side of the spacious hall is the laboratory and ordinary lecture room, with folding doors between, and in the rear of the latter room is the private room for the professors.

On the west side of the hall is the students' room, and in rear of this is situated the caretaker's room. You reach the second story by a spacious stairway, and on the west side of this story is found a finely lighted and spacious dissecting room, fitted up with all the modern improvements, including a dumb waiter from the cellar, and other conveniences. The side windows are large, and there is a fine sky-light, which makes

the room very bright and airy. On the east side of the upper portion of the building is situated the amphitheatre, in which will be placed a beautiful stained glass window. This room is fitted up very comfortably, and will accommodate at least three hundred students. This spacious room is also well lighted by side windows and a sky-light; and the apartment is reached from the Professors' room by a private stairway. There is a stained glass window at the head of the landing, between the dissecting room and the amphitheatre, which is attractive. The building is constructed of red and white brick with stone foundations, and will cost about \$7,000. The college was originated and erected under the immediate supervision of Dr. Canniff, the President of the College, who was indefatigable in his efforts to secure a complete structure, and being ably seconded by the contractors, he has certainly succeeded, the college being one which the faculty may well feel proud to possess.—*Leader*.

—TORONTO UNIVERSITY.—The election of Mr. W. G. Falconbridge, M.A., to the Registrarship of the University, will be hailed with delight by those who claim that as their *alma mater*. The Professors and members of the Senate have done themselves credit in the appointment.

—PRESENTATION.—The pupils of John street school, Toronto, presented their head master, Mr. Samuel McAllister, with a very valuable black marble time-piece, and a pair of beautiful lustres, together with an address, in which they expressed their esteem and affection for him, and their high appreciation of his efforts to advance the welfare of the school.

—EDUCATION IN IRELAND, 1871.—An English Parliamentary return lately issued give some figures which will help to dissipate the ignorance which generally exists concerning the educational system in Ireland—the notion that the system there is a mixed one, and not a denominational one. During 1871 there were 1,021,700 children on the rolls of the National Schools, 821,768 Roman Catholics and 188,699 Protestants. The Catholic pupils thus form 90 per cent of the whole numbers. More than half the Roman Catholic pupils—417,018—are educated in schools which are practically unmixed. The schools are taught exclusively by Roman Catholic teachers, and attended by none but Roman Catholic children. In the same way we find that there are 252 schools (mostly, of course, in Ulster) which are absolutely unmixed in a Protestant sense. Of the 472,795 pupils on the books of the schools with a mixed attendance, 364,347 are Roman Catholics, in 2,659 schools taught exclusively by Roman Catholic teachers, and having only the small admixture 26,863 Protestant pupils, or one in fifteen; 125,785 Protestant pupils (mostly in Ulster) are in 1,166 schools taught exclusively by Protestant teachers, and having 28,285 Roman Catholic pupils or one in five. The remaining 27,516 children are more equally mixed in 123 schools, chiefly in Ulster. The Roman Catholics ask for a denomination system, and we find that the mixed system has in practice so much of a denominational character that of the whole 821,769 Catholic pupils all but 40,494 are being educated in schools by masters of their own faith; so that the change asked for will be only a nominal one.

—Quetelet's statistics of crime in France and England show that, in the former country, out of one hundred criminals, sixty-one could not read or write, twenty-seven could read imperfectly, and only twelve could read and write well. In England, thirty-six could not read at all, sixty-one could read and write imperfectly, and only three could read and write well.

—On the 8th of February, 1875, the University of Leyden will celebrate its three hundredth year. On that day, an enterprising bookseller, of the Hague, will publish the roll of members of the University, from its foundation to the present time. The book will form a handsome double-columned quarto, and will be accompanied by an alphabetical index of names.

VIII. Departmental Notices.

VALUE AND DURATION OF CERTIFICATES.

The certificates to be awarded under these regulations are:

- First Class Certificates, Grade A.
- Do. do., Grade B.
- Second Class Certificates, Grade A.
- Do. do., Grade B.
- Third Class Certificates.

1. First and Second Class Certificates are valid during good behaviour and throughout the Province of Ontario; and a First Class Certificate of the highest grade (A), renders the holder eligible for the office of County Inspector.

2. Third Class Certificates are valid only in the county where given, and for three years, and not renewable, except on the recommendation of the County Inspector; but a teacher, holding a Third Class Certificate, may be eligible in less than three years, for examination for a Second Class Certificate, on the special recommendation of his County Inspector.

INTER-COMMUNICATIONS IN THE "JOURNAL."

As already intimated, a department is always reserved in the *Journal of Education* for letters and inter-communications between Inspectors, School Trustees and Teachers, on any subject of general interest relating to education in the Province. As no personal or party discussions have, ever since the establishment of the *Journal*, appeared in its columns, no letter or communication partaking of either character can be admitted to its pages; but, within this salutary restriction, the utmost freedom is allowed. Long letters are not desirable; but terse and pointed communications of moderate length on school management, discipline, progress, teaching, or other subjects of general interest are always acceptable, and may be made highly useful in promoting the great objects for which this *Journal* was established.

POWER OF THE "RETIRING TRUSTEE."

In reply to many inquiries on this subject, we answer: That by the New School Act the lost power of the "retiring trustee" has been restored. Up to 1850, he had the same power as any other trustee, but in that year it was enacted that he could not lawfully sign an agreement with a teacher, the duration of which would extend beyond his period of service. That clause has now been repealed and the "retiring trustee" has now precisely the same powers in all respects as either of his colleagues.

NEW SCHOOL REGISTERS.

In reply to numerous applications for Public School Registers, &c., we desire to say that the new edition (including the modifications in the courses of study required by the new School Act) has been sent out to the County Clerks for distribution through the Inspectors. No copies will be sent out direct to individual schools from the Education Department. Trustees will, therefore, apply to the Inspector for them.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and consent to employ *two* masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High

Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws.

NEW SCHOOL MANUAL.

In answer to various inquiries on the subject of a new School Manual we would say, that it is not thought desirable to publish a School Manual at present. Such a Manual should include in it the official regulations, but as they will not be revised until about the close of the present year (1872), or later, they cannot be embodied in the manual until then.

We would state, however, that the whole of the School Law and the general official regulations will be found in this Journal for May and June, 1871. Copies of these journals, when published, were sent by mail and addressed to each school corporation in Ontario. The supply is, however, now exhausted.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

SUNDAY SCHOOL BOOKS AND REQUISITES.

Application having been frequently made to the Department for the supply from its Depository of Sunday School Library and Prize Books, Maps and other requisites, it is deemed advisable to insert the following information on the subject.

1. The Department has no authority to grant the one hundred per cent. upon any remittance for Library or Prize Books, Maps or Requisites, except on such as are received from Municipal or Public School Corporations in Ontario. Books, Maps, and other Requisites suitable for Sunday Schools, or for Library or other similar Associations, can however, on receipt of the necessary amount, be supplied from the Depository at the net prices, that is about twenty-five or thirty per cent. less than the usual current retail prices.

2. The admirable books published in England by the Society for Promoting Christian Knowledge, and by the London Religious Tract Society, are furnished from the Societies' catalogues at currency for sterling prices (i. e. a shilling sterling book is furnished for twenty cents Canadian currency, and so on in proportion.) These two catalogues will, as far as possible, be furnished to parties applying for them. Books suitable for Sunday Schools are received from the other large religious societies, Presbyterian and Methodists, and from the various extensive publishers in Britain and the United States, but the list would be too extensive to publish separately.

3. On receiving the necessary instructions, a suitable selection can be made at the Department, subject to the approval of the parties sending the order. Any books, maps, &c., not desired which may be sent from the Depository, will be exchanged for others, if returned promptly and in good order.

"OLD COUNTY BOARD" CERTIFICATES.

The question is often asked: "Can the present Board of Examiners recall the old County Board Certificates?" We reply: They cannot recall any of the old County Board Certificates which were given for life, or for a term of years. They can, however, at the proper time, recall those which were given for an indefinite time, or during the pleasure of the Board; that is those which on the face of them clearly show that they were given subject to such recall. The Department has in all cases requested the Board of Examiners *not* to recall these latter certificates *this year*, nor until the supply of teachers is more equal to the demands of the schools than at present.

THE ACT OF 1871 AND SEPARATE SCHOOLS.

In reply to a question frequently asked, we desire to say that the new School Act and Regulations do *not* in any way affect the Separate Schools. It was not intended to affect them when the Act was passed; and it would be unjust to the supporters of these Schools thus to legislate for them indirectly, and without their knowledge. The Inspectors will, therefore, be particular not to apply the Act, or any of the new Regulations to Separate Schools.

AUTHORIZED TEXT BOOKS.

The list of the authorized Text Books for High and Public Schools, so far as completed by the Council of Public Instruction, is published in the *Journal of Education* for October, and on a separate sheet. Inspectors, Trustees and Teachers will please see that these books are used in the schools.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme.....	Large Sheets.	The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table.....		
4. Duties of Pupils.....		
5. The Ten Commandments		
6. Library Regulations	Small Sheets.	
7. List of authorized Text Books.....		
8. Merit Cards and their uses.....		
9. Hints on constructing Time Tables.....		
10. Departmental Notices.....		

TABLET READING SHEET LESSONS.

Being the First Book of Lessons in Tablet form, in thirty-three sheets, 75 cents (By post, postage paid).....	Price \$1 00
Mounted on 17 sheets of thin cardboard	" 1 75
Mounted on 17 sheets of stiff cardboard, varnished....	" 2 75
Mounted on 33 sheets of stiff cardboard, varnished....	" 3 50
Mounted on 33 sheets superior cardboard, varnished ..	" 4 50
The 100 per cent is allowed on those and the Geography sheets.	

SHEET LESSONS ON GENERAL GEOGRAPHY,

In 13 sheets, 50 cents; or by post, postage paid, 57 cents; mounted on cardboard and varnished, per set, \$2 25.

IN THE PRESS.

THE ONTARIO SCHOOL LAW.

Relating to County Councils—Township Councils—City, Town and Village Councils—Township Boards—Union School Sections—Arbitrations in regard to School Sites—County, City and Town Public School Inspections, Boards of Examiners, &c., &c., being Part II. of School Law Lectures. By J. GEORGE HODGINS, LL. D., Barrister-at-Law. Price 75 cts.; by Mail, 80 cts.

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THE ANNUAL SCHOOL MEETINGS, 8th JANUARY.

As the time for the annual meetings in the various School Sections and Municipalities is near at hand, we append a summary of the law on the subject, taken from the "School Law Lectures to Normal School Students," by Dr. HODGINS, with a few general remarks.

IN RURAL SCHOOL SECTIONS.

1. *Day.*—The day fixed by Statute for the Annual School Meetings throughout the Province is the Second Wednesday of January, which this year falls on the 8th, and the hour at ten o'clock in the forenoon. The proceedings cannot close before eleven o'clock, nor be kept open after four o'clock, P.M., of that day. They cannot stand over to the following day nor be adjourned, nor fail, should only two electors and two trustees be present. (See next section.)

2.—Public Notice of Meeting must be given by Trustees.

Three public notices, to be posted in as many conspicuous places in the school section, should be issued at least six clear days before the day of meeting, and signed by the secretary (by direction of the trustees), or by a majority of the trustees themselves. The corporate seal need not be attached to them. These notices should state the *time, place* of meeting, and all the business to be brought forward. Should the meeting fail to be held for want of notice or other cause, any two rate-payers, or the inspector, may call a school meeting within twenty days after the 14th of January.

3.—Who are, and who are not School Electors of a Section.

Every school rate-payer of the section, whether resident or

non-resident, female or minor, who has paid a county, township, or section school tax, during the year, and who is not a supporter of a separate school, has a right to be present and vote at a school meeting.

4.—Declaration of School Section Elector's Right to Vote.

In case any one objects to an elector's right to vote, the chairman should require the elector to make a declaration of that right in the following form (on doing so his vote must be received without further question):—

"I do declare and affirm that I have been rated on the assessment roll of this school section as a freeholder (or householder, *as the case may be*), and that I have paid a public school tax due by me in this school section, imposed within the last twelve months, and that I am legally qualified to vote at this meeting."

5.—Appointment of a Chairman and Secretary of the School Meeting.

The first thing to be done, before proceeding to other business, is the appointment of a Chairman and Secretary. The chairman may be an elector or non-elect, at the pleasure of the meeting (if a non-elect he cannot vote). The secretary may be the teacher of the section, or any other competent person.

6.—Duties of the Chairman of a School Meeting.

- (1.) To keep order.
- (2.) To decide all questions of order, subject to an appeal to the meeting.
- (3.) To give a casting vote (but no other), if an elector.
- (4.) To take the votes on any question before the meeting, in any manner desired by two electors present. (See section 14 of this chapter.)
- (5.) To hear the verbal declaration of office made (in the words of the statute) by the trustee elect.
- (6.) To transmit to the inspector a copy of the proceedings of the meeting, signed by himself and the secretary, under a penalty of five dollars for neglecting to do so.

7.—Duties of the Secretary of a School Meeting.

- (1.) To make a correct minute of the proceedings.
- (2.) To sign the minutes for transmission to the inspector.

(3.) To hear the declaration of office made by the chairman, in case he should be elected trustee.

8.—Prescribed Order of Business at a School Meeting.

The following is the order in which the business of an annual school meeting should be taken up:—

- (1.) Calling the meeting to order by the senior trustee.
- (2.) Election of chairman and secretary.
- (3.) Reading of trustees' annual report and auditors' statement of receipts and expenditure.
- (4.) Reception of trustees' report and auditors' statement.
- (5.) Election of trustee to fill the vacancy of the year.
- (6.) Election of trustee or trustees to fill any other vacancy.
- (7.) Election of a school auditor for the next year.
- (8.) Deciding by whom the school expenses of the school shall be raised, (that is by the trustees, or by the township council).

NOTE.—The school meeting has no power to alter the trustees' estimate of these expenses, nor to interfere with the appointment of the teacher, or to reduce his salary. These expenses, which cannot be reduced by the meeting, include the items of rent, insurance, repairs, fittings, printing; salary of teacher; maps, apparatus, tablets, library, prize and text books; fuel, cleaning, lighting fires, care of premises; postage, stationery; collector's fees; cost of site, building, teacher's residence, outbuildings, shed, fence; planting and laying out grounds; school bell and all other necessary expenses incurred by trustees in maintaining the school.

- (9.) Any other business, of which due notice has been given.

NOTE.—No business can be lawfully transacted at a school meeting, unless due notice shall have been given of it by the trustees, inspector, &c., beforehand.

9.—Rules to be observed at each School Meeting.

The following rules are to be observed at each school meeting, (see also section 10 of this chapter), viz:

- (1.) *Poll demanded.*—The name of those who vote for, and of those who vote against, a motion, shall be entered upon the minutes, if two electors require it, at the time of voting, and even after the chairman has declared the motion carried. (See section 14, below.)

- (2.) *Votes.*—All votes shall be taken in the manner desired by a majority of electors present, and a poll shall be granted if two electors desire it. Every vote tendered shall be received by the chairman, unless objection be made to it. In that case the chairman shall require the person, whose vote is questioned, to make the declaration provided by law. After making it, the vote must be received and recorded without further question.

- (3.) *Protest.*—No protest against an election, or other proceedings of the school meeting shall be received by the chairman. All protests must be sent to the Inspector, at least within twenty days after the meeting.

- (4.) *Adjournment.*—A motion to adjourn an annual school meeting until the business is finished is unlawful; but a motion to adjourn a special school meeting shall always be in order; provided that no second motion to the same effect shall be made until after some intermediate proceedings shall have been had; or provided that such special meeting has not been called for the selection of a school site. (See section 3 of chapter VII.)

- (5.) *Reconsidering Motion.*—A motion to reconsider a vote may be made by any elector at the same meeting; but no vote of reconsideration shall be made more than once on the same question at the same meeting, unless by unanimous consent.

- (6.) *Close of the Meeting.*—The school meeting must not close before eleven o'clock in the forenoon, nor shall it continue open after four o'clock in the afternoon—beyond which latter hour no business can be lawfully transacted by the meeting.

- (7.) *Transmitting Minutes to Inspector.*—At the close of the meeting, the chairman should sign the minutes as entered by the secretary in the minute book. Within fourteen days after the meeting, the chairman must send to the inspector a copy of the minutes (as signed by himself and the secretary), under a penalty of five dollars.

- (8.) *Declaration of Office.*—The trustee, or trustee-elect, should at once make the declaration of office before the chairman of the meeting, or within fourteen days after the close of the meeting. In case the chairman is elected trustee, he should in like manner make the declaration of office before the secretary.

NOTE.—In no case is an oath of office, or signed declaration by the trustee-elect required. The act must be verbally performed. Even if it be not performed, the trustee is nevertheless a legal trustee until fined by a magistrate for neglect to make the declaration. On being fined, the office is vacated, and a new election should be at once held. Even should a trustee's election be appealed against to the inspector, the trustee himself must hold office and act, until his election is legally set aside. The principle is, that an individual coming into office by colour of an election or appointment, is an officer *de facto* (in fact), and his acts, in relation to the public, are valid until he is lawfully removed, although it be conceded that his election or appointment was illegal in the first place. When his election is confirmed, he becomes a trustee *de jure* (of right), and no further objection can be made to him.

10.—Optional Rules.

NOTE.—The following are rules of order suggested, which may or may not be observed, at the pleasure of the meeting, viz:

- (1.) *Addressing Chairman.*—Every elector, previous to speaking, should rise and address himself to the chairman.

- (2.) *Order of Speaking.*—When two or more electors rise at once, the chairman shall name the elector who shall speak first, when the other elector, or electors, shall next have the right to address the meeting in the order named by the chairman.

- (3.) *Motion to be read.*—Each elector may require the question or motion under discussion to be read for his information at any time, but not so as to interrupt an elector who may be speaking.

- (4.) *Speaking twice.*—No elector shall speak more than twice on the same question or amendment without leave of the meeting, except in explanation of something which may have been misunderstood, or until every elector choosing to speak shall have spoken.

- (5.) *Motions to be seconded.*—A motion cannot be put from the chair or debated unless the same be in writing (if required by the chairman), and seconded.

- (6.) *Withdrawal of Motion.*—After a motion has been announced, or read by the chairman, it shall be deemed to be in the possession of the meeting; but it may be withdrawn at any time before decision, with the consent of the chairman.

- (7.) *Kinds of Motions to be received.*—When a motion is under debate, no other motion shall be received, unless to amend it, or to postpone it, or for adjournment, if a special meeting, as provided in clause (4), section 9 of this chapter.

- (8.) *Order of putting Motion.*—All questions shall be put in the order in which they are moved. Amendments shall always be put before the main motion: the last amendment first, and so on.

11.—First Business of the Annual School Meeting.

After appointing a chairman and secretary, the first business, before electing a new trustee, is the reading of the school trustee and auditors' report for the past year for the information of the meeting. (For other items of business to be brought forward, see section 8 of this chapter.)

12.—What the Trustees and Auditors' Report shall contain.

The law of 1871 declares that "the report of the trustees required by law to be laid before the annual school meeting shall (1) include a summary of their proceedings; and (2) state of the school during the year, together with (3) a detailed statement of receipts and expenditure, signed by either or both of the school auditors of the section; and in case of a difference of opinion between the auditors on any matter in the accounts, it shall be referred to and decided by the County Inspector.

13.—Who may or may not be a Trustee.

Any fit and proper person who is a resident assessed rate-payer of the school section, may be trustee thereof; but no inspector, teacher, non-resident, or supporter of a separate school can lawfully hold that office. The chairman of the meeting (if a rate-payer, and otherwise eligible), may be elected. In that case he should make a verbal declaration of office before the secretary of the meeting. Should a person elected as trustee refuse to serve, he subjects himself to a penalty of five dollars; but a retiring trustee need not serve for four years after his term of service expires. (See chapter I, sections 1 and 2.)

14.—Three Modes of Trustee Election Prescribed.

In electing a trustee, one of the three modes authorized by law may be adopted, viz: (1) by acclamation; (2) by a show of hands; and (3) by polling the votes. The law requires the chairman to adopt the latter mode at the request of any two electors present, even although he may, on a show of hands, have declared the person elected.

15.—Complaints to be made to Inspector.

Any person having a legal objection, either to the proceedings of the annual meeting, or to the election of the trustee, has a right of appeal against either, within twenty days, to the inspector alone. The inspector is required by law to receive and to investigate the complaint, and either confirm the proceedings and election, or set them aside within a reasonable time.

16.—Appeal to the Chief Superintendent against Inspector's Decision.

Should any rate-payer object to the Inspector's decision, no further proceedings should take place in the matter until an appeal is made to the head of the Education Department (as provided by law in such cases) and decided.

NOTE.—Should the proceedings and election be set aside, and no appeal be made to the chief superintendent, the inspector, or trustees, if desired, should call another meeting for a new election. If no complaint be made to the inspector in writing within twenty days after the meeting, the proceedings (however irregular they may have been) must be held to be valid and binding upon all parties concerned. It should be borne in mind that the complaint (if made at all) must be referred, in the first place to the inspector

jurisdiction, and not to the chief superintendent. The law provides an appeal from the decision of the inspector in such cases to the chief superintendent. In no case should the complaint in the first instance be to the Education Department; and, in all cases, parties appealing must send the inspector a copy of their appeal, so that he may have an opportunity to make such explanations as he may deem necessary to that Department.

17.—Mode of Calling Special School Meetings.

Notice calling a special school meeting, should specify the time and objects of the meeting. It may be issued by the clerk, or trustees, or by the Inspector. Three notices of the kind should be put up in a conspicuous place in the section, at least six days before the meeting. (See section 2 of this chapter.)

18.—What an Ordinary Special School Meeting can do.

A special meeting called to transact ordinary business can—
(1) *Discuss*, and decide at its pleasure, the business named in the notice calling it; or, it may, (unless restricted as below.)
(2) *Adjourn* the further consideration of such business until another meeting.
(3) *Rescind* (unless restricted as below) the resolutions of a former meeting, and pass others in their place.

19.—What a School Section Meeting Cannot do.

A school meeting cannot lawfully:

- (1) *Elections*.—Rescind any resolution or vote of a former meeting or the election of a school trustee.
- (2) *Contract*.—Rescind any resolution of a former meeting, if in the meantime a contract, agreement, or obligation has been entered under its authority, unless at the same time it fully provides for the payment of compensation or damages caused by the rescinding of such resolution or vote.
- (3) *Adjourn*.—The annual meeting, or any meeting called for the purpose by it and by the trustees of arbitrators, to decide on a school site. (See next chapter, section 4.)
- (4) *Award*.—Set aside or ignore the award of arbitrators appointed to select a school site.
- (5) *Rate Bill*.—Impose rate bill for fees, fuel, or other purposes, on residents, or non-residents. See chapter 4 on non-residents.)
- (6) *Trustees' Right*.—Interfere with the trustees in their right to employ a teacher, erect a school-house, or decide upon the expenses of the school, or the improvement of the school premises.

ACTION OF BOARDS OF PUBLIC SCHOOL TRUSTEES

IN CITIES, TOWNS, AND INCORPORATED VILLAGES.

From the Second Part of the "School Law Lectures to Normal School Students," by Dr. HOBBS.

Day and hour for the Election of Boards of Public School Trustees.

The election of members of public school trustee board, in cities, towns and incorporated villages, must be held on the second Wednesday in January of each year, commencing at the hour of nine o'clock a.m., and closing not later than five o'clock p.m.

NOTE.—The hour for holding the school election in cities, towns and incorporated villages is different from that at which it is held in rural sections. In respect it follows the municipal instead of the school law. The doubtless, was to facilitate the settlement, by the county judge, of election complaints, by assimilating the school law to that governing municipal elections.]

2.—How long shall the School Election last?

The election shall last for one day only. It shall commence at nine o'clock in the forenoon, and close at five o'clock in the afternoon, after which hour no vote shall be received for any candidate.

3.—Where shall the Public School Trustees Election be held?

The election of public school trustees in cities and towns, divided into wards, shall be held "at the place of the last municipal election," and in towns and incorporated villages not divided into wards, it shall be held "at the place of the then last annual election of councillors."

NOTE.—In case the election of a public school trustee (on complaint made to him) be set aside by a county judge, the law authorizes him "to fix the time and place of holding a new election." (See sections 6 and 7 of this chapter.)

4.—Who shall preside at a Public School Trustee Election?

Each public school trustee election in cities, towns and incorporated villages, shall be held under the direction "of the returning officer" of the municipality concerned; "but in case of the default of the returning officer, then under the direction of such person as the electors present may choose."

How shall a Public School Trustee Election be conducted?

The school law declares that "the school elections in cities and

towns shall be conducted in the [same] manner as an ordinary municipal ward election."

NOTE.—The "manner" thus referred to is defined in the municipal law as follows:—

(1) The returning officer shall preside, or, in his absence, a person chosen by the electors. He shall enter in a poll book, in separate columns, the names of the candidates proposed, and shall, opposite to such columns, write the names of the electors offering to vote at the election. He shall also in each column, in which is entered the name of a candidate voted for by an elector, set the figure "1" opposite the voter's name.

(2) The returning officer shall, at the close of the poll, add up the number of votes set down for each candidate for the office of trustee, and shall publicly declare the same, beginning with the candidate having the greatest number of votes, and so on with the others; and shall thereupon publicly declare elected the candidate or candidates respectively who shall stand highest on the poll.

(3) In case two or more candidates have an equal number of votes, the returning officer shall give a vote for one or more of such candidates, as the case may be, so as to decide the election; and, except in such case, no returning officer shall vote at any election held by him.

(4) The returning officer shall, on the day after the close of the election return the poll book to the clerk or secretary of the public school board. He shall also append thereto his solemn declaration that the poll book contains a true statement of the poll, and transmit his certificate for the persons (naming them) who have been duly elected.

6.—Who shall call Meetings for the Election of Public School Trustees?

(1) On the incorporation of towns and incorporated villages, not divided into wards, the first meeting for the election of public school trustees shall be called by the "returning officer appointed to hold the first municipal election in such town or village."

NOTE.—For boundaries of newly incorporated villages. (See sec. 5, ch. iv.)

(2) In case of the "neglect for one month" of the returning officer to call this first school meeting for the election of six trustees, in a town or village not divided into wards, "any two freeholders in such town or village may call a meeting for such purpose."

(3) The annual meeting for the election of public school trustees in cities, towns and incorporated villages shall be called by the public school board.

(4) A county judge who, on appeal, sets aside a public school trustee election, is required by law to "appoint a time and place of holding a new election."

NOTE.—The county judge is merely required to "appoint the time and place of holding a new election," in case he sets aside an election, against which an appeal had been made to him. He may either call the meeting himself, or direct the trustees to do so. (See section 13 of this chapter, next page.)

7.—When must Public School Meetings be held?

(1) The annual school meeting must be held on the second Wednesday of January of each year, at nine o'clock a.m.

(2) A special school meeting may be held at any time fixed upon by the trustees at their discretion.

(3) The county judge is authorized to "appoint the time and place of holding a new election, when he sets aside one against which a complaint has been made to him."

8.—For what purpose can School Meetings be called?

Public school trustees in cities, towns and incorporated villages, are authorized to call school meetings for—

(1) The annual election of school trustees.

(2) The election of a public school trustee or trustees, to fill a vacancy or vacancies in the school corporation, which may be caused at any time by (1) death, (2) resignation, (3) removal from the municipality, (4) void election, (5) refusal to act, or (6) other cause. (See section 20 of this chapter, page 121.)

NOTE.—See "Note," to 6th section above.

(3) "Any other school purpose which they may think proper."

NOTE.—The board of trustees is not required to call a public school meeting, or otherwise consult their constituents in regard to the selection of a public school site, the erection of a school house, or the raising of moneys for the support of the schools. They may do so, however, at their pleasure. But the resolutions passed at such a meeting are not binding upon the trustees. They would be valuable only as an expression of opinion on the part of the ratepayers. Trustees are not required to submit their annual report to a public school meeting, but they are required to publish it in the local newspaper. (See section 8, of chapter xvi.)

9.—What notice must be given in calling School Meetings?

In all cases six days' notice, in at least three public places in each ward, town or village, must be given of each public school meeting, whether it be called by a returning officer (see section 6 of this chapter) or by the board of trustees, or by order of a county judge, in case an election be set aside by him.

10.—Who has a right to vote at School Meetings?

Any assessed freeholder or householder of a city, town or incor-

porated village, who has paid his previous year's school tax in such municipality, whether a resident or non-resident, has a right to vote at any lawful school meetings in the ward or municipality in which he pays rates; but supporters of separate schools have no vote.

11.—*Test of right to vote, in case objection be made?*

"In case an objection be made to the right of any person to vote at an election in any city, town or village, or upon any other subject connected with school purposes therein, the returning officer presiding at the election shall require the person whose right of voting is objected to, to make the following declaration:

"I do declare and affirm that I have been rated on the assessment roll of this city (town or village, as the case may be), as a freeholder (or householder, as the case may be), and that I have paid a public school tax in this ward (town or village, as the case may be), within the last twelve months, and that I am legally qualified to vote at this election."

"Whereupon the person making such declaration shall be permitted to vote."

12.—*Penalty for making a False Declaration of a Right to Vote.*

"If any person wilfully makes a false declaration of his right to vote, he shall be guilty of a misdemeanor, and upon conviction, upon complaint of any other person, shall be punishable by fine and imprisonment, at the discretion of the Court of Quarter Sessions; or by a penalty of not less than five dollars, or more than ten dollars, to be sued for and recovered with costs before a justice of the peace, by the school trustees of the municipality for its use."

13.—*Mode of Proceeding in Contested Elections in Cities, Towns and Villages.*

"The judge of the county court shall, within twenty days after the election of a common school trustee in any city, town or incorporated village within his county, receive and investigate any complaint respecting the mode of conducting the election, and confirm it or set it aside, and appoint the time and place of holding a new election, as he may judge right." (See clause (4) of sec. 6 of this chap. p. 118.)

14.—*Penalty on Returning Officer for wrong doing at School Elections.*

"If the returning officer at any election of a public school trustee be convicted before the county judge, of disregarding the requirements of the law, or acting partially in the execution of his office, he shall be fined a sum of not less than twenty dollars, nor more than one hundred dollars, at the discretion of such county judge."

15.—*Costs of Contested Public School Elections.*

"The expenses of any school election contest shall be paid by the parties concerned in it, as may be decided by the county judge."

16.—*Number of Trustees in each School Board.*

The number of public school trustees to be elected in a municipality at each first election is as follows:—

- (1.) Where wards exist: two for each ward.
- (2.) Where no wards exist: six for the municipality.

Number of public school trustees to be elected annually:

- (1.) Where wards exist: one for each ward.
- (2.) Where no wards exist: two for the municipality.

17.—*How shall Retirement of each Trustee be determined?*

After the first election of a board of trustees they shall, at their first board meeting, determine by lot how they shall individually retire from office. The number to retire in each case is as follows:

- (1.) Where wards exist: one annually.
- (2.) Where no wards exist: two annually—the six trustees on the board having first been divided by lot into three classes of two each.

NOTE.—Although a trustee, as above explained, retires from office on the second Wednesday of January in each year, yet, in case of failure, from any cause, to elect his successor, he holds office and legally acts as trustee until such successor is elected. The same rule applies in case of the resignation or removal of a trustee.

18.—*Who may be a Public School Trustee?*

- (1.) Any "fit and proper person," resident or non-resident, ratepayer or not.
- (2.) (After a first election) any retiring trustee.

19.—*Who may not be a Public School Trustee?*

The law excludes the following persons from the office of public school trustee:

- (1.) An inspector of public schools.
- (2.) A teacher in a high or public school, or collegiate institute.
- (3.) A trustee or supporter of a Roman Catholic separate school.

20.—*How may the Office of Public School Trustee be vacated?*

- (1.) By decision of the county judge, on a complaint being made to him against the election. (See note to section 17 of this chapter.)
- (2.) By refusal to serve.
- (3.) By resignation of office.
- (4.) By death.
- (5.) By removal from the municipality.

NOTE.—Although the school law relating to the refusal to act, resignation, removal, and neglect to make the declaration of office, on the part of school trustees, is expressed in almost every case in general terms, yet it is doubtful whether it strictly applies to trustees in cities, towns and incorporated villages. See sections 3 and 4 of chapter 1, part 1, of these lectures, pages 9 and 10.

21.—*Personal Responsibility of Public School Trustees.*

NOTE.—A good deal of what is said on the subject of the personal responsibility of the rural school trustees (which is fully discussed on pages 14 and 38 of the first part of these lectures) may be held to apply to trustees in cities, towns and villages generally. Yet as the circumstances of the classes of trustees are different, what is special in its application to the classes can be easily determined by the parties concerned. See also portions of the 22 Vic., ch. 126, on page 123.

QUALIFICATIONS OF PUBLIC SCHOOL TRUSTEES

BY THE REV. WM. COCKRANE, M.A., BRANTFORD.

(CONTRIBUTED TO THE STRATFORD BEACON.)

With good reason we boast of our Public School System, as mirably adapted to the wants of our country, and as far in advance of the educational arrangements of the old world. Its non-sectarianism—its accessibility to all classes of the population, and its thorough character of the training furnished, give it a deserved high place in the affections of our people. The rapid growth of our country during the vast few years and the wonderful progress made in all that constitutes permanent stability, is due, in part at least, to the moral influence of our public schools.

Our normal schools are also keeping pace with the demand for a higher standard of ability in the teacher. Talents and attainments which a few years since could easily have secured a first-class certificate, can now with difficulty secure a second. The appointment of County Inspectors of acknowledged eminence in educational literature and the varied systems of training—men whose many cases secured degrees in our leading colleges and universities—in room of the old and unsatisfactory system of Local Inspectors, who did their work for the most part in a perfunctory, free-and-easy manner—has already made its results apparent in the increased efficiency of our schools.

But there is great room for improvement in the management of our schools. The trustees elected in many cases to sit in judgment upon the qualifications of teachers and to arrange the program of studies, and superintend the practical working of our school system, are totally unfit for such a position. We exaggerate when we say, that several schools in Ontario have trustees as thoroughly incapable of discharging the duties assigned as a common labourer would be, in the position of Prime Minister of England, or Commander of the Royal Navy!

According to our idea, the public school system of Canada is the most important branch of our civic economy, and the men who are placed as trustees occupy a position of influence second to none in official in the land. The appointment of members of Parliament and of our Local Legislatures, and the election of aldermen and councillors, are considered matters of prime importance, no effort is considered extravagant, in order that certain men may be elevated to such honours. Their character—their ability—their knowledge of politics, are all enquired into. It is expected also that they can and will let themselves be heard, in regard to important questions that must come under their notice, and that their individual opinion and action. In spite of all this, no man does creep into town councils and Parliament; but the chance is that men of some degree of intelligence and common sense prevail.

All this diligence, however, is unknown in the selection of school trustees. But little interest is taken in the matter at all by the general public. Parents whose children attend school, and above all classes in the community should bestir themselves to secure well-informed, unprejudiced and honourable men, to whom our educational interests, are supine and indifferent. It is not until by a gradual deterioration—extending over years—in the character of our schools and the efficiency of our teachers, that the possible point is reached—that the public mind is aroused to investigation and effort. And then it is found that certain men who quietly year after year had themselves elected trustees—men so thoroughly incompetent for their work as a drayman would be for the Chair of Astronomy or Chemistry in University College!

It may be replied that the actual necessities of the public and high schools of the country are better understood by men selected out of the middle class than by those possessed of higher attainments, or who occupy a certain standing in society. Our remarks are certainly not intended to preclude intelligent men, to whatever class they belong. Among our mechanics and operatives there are men to be found who in administrative talents and in practical ability will favourably compare with members of the learned professions. By all means let us have such men on our boards of school trustees. But they must be put there by electors. Such men in proportion to their capabilities, are not likely to push themselves forward for any office; while others of inferior merit, hungering for appointments, leave no stone unturned to effect their object. It may not be possible to state all the qualifications demanded in efficient school trustees. Different localities will demand different standards. But surely it is not too much to expect that our school trustees shall not only be men of unblemished moral character, against whom no breath of suspicion can be raised, but that they shall be men of the highest honour, whose opinions and judgments will not be swayed by favouritism or biased by political leanings;—men of some degree of executive ability—able to write a concise grammatically and speak without making themselves a boring stock in presence of the school; and finally that they shall have some slight degree acquainted with the educational system of the Province. If it is admitted that these are among the essential qualifications of school trustees, and were such a standard applied to existing boards, how many of them would be without a quorum at their very first meeting!

The result of our past indifference in regard to this important matter are being felt in many quarters keenly. There are in every community a few men who seek for notoriety in any shape or form. They are always ready to have honour thrust upon them, and to receive honours. Like certain professional jurymen, that hang in court rooms, and are ever ready to try any case whatever, in the absence of defaulters, so are certain of our model school trustees. The question with them is not fitness for this or that trust, but the possibility of election! They like to exercise authority as teachers, and appear at public examinations clothed with the robes of office, and have candidates solicit them for their influence and support. As regards the necessary qualifications of teachers, the remuneration and deference due to conscientious and painstaking teachers, they never had a single intelligent idea. They are instructed by their leaders, for certain candidates to advance certain interests, regardless of those higher considerations that should ever be supreme in men who hold such an important trust.

What is the result? Our best teachers become disgusted with overbearing ignorance, and in many cases leave the profession. A small advance of salary would secure the retention of a class master or mistress, it is refused by these parsimonious men who know nothing of what scholarship costs, and what education and women have a right to demand. Female teachers suffer most severely at the hands of such incompetent trustees. Taking advantage of the unfortunate fact that the supply in excess of the demand, the remuneration given is in some cases barely sufficient to keep body and soul together. Having no time to cultivate themselves, they cannot make allowance for the wants of others. All that they received when at school—the three R's taught by some poor unfortunate, who took to school teaching as a last resort, and to eke out a miserable existence not otherwise to be obtained. "What higher attainment can the present age demand, and why should not teachers be content with the starvation salaries of these good old days?" So say our model school trustees.

The striking contrast with the indifference we have spoken of is the action of school boards in Great Britain, under the new School Act just coming into force. The first men in the land are elected to the responsible trust, and consider it an honour and a privilege to devote their energies to the work. Men of world-wide reputation for attainments in literature, science, philosophy and statesmanship, and of all shades of politics and every creed are now sitting on the varied school boards of England and Scotland, united by the earnest desire to raise the standard of scholarship, and to educate the nation.

The electors of Ontario take the same interest in this matter as their brethren in England, and the growing evil of incapable school trustees will be speedily remedied. Unless this is done, the school system, good in itself, will become a practical failure. Good men in themselves, if inoperative, are of no value, and the system of government, when perverted by designing men, becomes a curse rather than a blessing to any people. In like manner the noblest scheme of education ever devised, if entrusted to incompetent and incapable officials, will ultimately destroy all those

praiseworthy aspirations after culture, refinement, and scholarship which should characterise the youth of our land.

84 TEACHERS RETIRED FROM THE PROFESSION.

STATEMENT of Teachers who have given notice of retirement from the profession, as provided by the School Law of 1871, 34 Victoria, chapter 33, section 43.

NAME.	COUNTY.	SUBSCRIPTION RETURNED, AND DATE.
Anderson, J. A. R.	Wellington	\$2. April, 1872.
Arnold, J. S.	Kent	2. November, 1872
Babe Thomas	Peel	2. August, 1872.
Balfour, W. D.	Lincoln	1. December, 1871.
Beattie, Wm.	Peel	2. May, 1872.
Beeman, M. J.	Lennox	1. October, 1872.
Bell, Alex.	Wentworth	2. March, 1872.
Birdsall, L. E.	Lincoln	3. August, 1872.
Byam, John W.	Ontario	2. September, 1872.
Burrows, F.	Lennox	1. September, 1871.
Bretherton, George	Lennox	1. October, 1871.
Carolan, Joseph	Haldimand	2. September, 1872.
Corrigan, Robt.	Ontario	1. January, 1872.
Curtis, M.	Grey	2. April, 1872.
Charles, John L.	Brant	4. June, 1872.
Crews, L. W.	Oxford	3. September, 1872.
Dingman, W. E.	P. Edward	December, 1872.
East, Corn.	Toronto	3. December, 1872.
Eyvel, George	Perth	3. November, 1872.
Ferguson, S.	Renfrew	2. August, 1872.
Fydel, T. R.	Simcoe	3. September, 1872.
Forde, J. H.	Carleton	2. July, 1872.
Fullerton, James	Waterloo	2. June, 1872.
Flood, James	Peterborough	2. March, 1872.
Godbold, Sylvester	Waterloo	2. December, 1872.
Hutchins, J. H.	York	2. April, 1872.
Hughes, Samuel	Durham	2. March, 1872.
Hughes, Jno.	Dundas	2. December, 1872.
Harold, Richard	Waterloo	3. September, 1872.
Hall W. M.	Bruce	2. October, 1872.
Hunter, W. D.	Peel	1. July, 1872.
Hutchinson, John	Waterloo	3. November, 1872.
Harwood, W. C. M.	Halton	2. August, 1872.
Harrison, J. W.	Kent	2. September, 1872.
Irvine, C.	Hastings	2. May, 1872.
Johnston, W. L.	Peterborough	4. June, 1872.
Kennedy, Neil	Middlesex	2. November, 1872.
Kenny, James	Leeds	2. June, 1872.
Lewis T. H.	Lambton	1. February, 1872.
Little, Wm.	Hastings	2. April, 1872.
Lloyd, Nelson	Bruce	3. December, 1872.
Lynd, A.	Simcoe	2. April, 1872.
Langford, C. J.	Grey	2. May, 1872.
Luton, Albt.	Elgin	1. July, 1872.
Martin, R. T.	Wellington	1. February, 1872.
Menzer, S. S.	Waterloo	1. November, 1872.
Morrison, John	Bruce	2. February, 1872.
Muir, J. M.	Waterloo	2. December, 1872.
Mills, Saml.	Simcoe	1. February, 1872.
Moorehouse, J. H.	Hastings	1. February, 1872.
Minaker, Wm.	P. Edward	2. April, 1872.
Mann, J. R.	York	1. July, 1872.
McKay, George D.	Bruce	3. December, 1872.
McMillan, M.	Welland	1. December, 1871.
McDonald, Donald	Halton	1. January, 1872.
McTaggart, Angus	Lambton	2. April, 1872.
McAuliffe, J.	Simcoe	2. July, 1872.
McBride, Angus	Kent	2. October, 1872.
McBride, John	Waterloo	3. December, 1872.
McPherson, Duncan	Oxford	2. October, 1872.
McTavish, Peter	Waterloo	3. October, 1872.
Norton, Thos.	Grey	1. October, 1871.
Nelles, J. M.	Brant	2. September, 1872.
Paterson, David S.	Victoria	3. September, 1872.
Ross, Geo.	Ontario	3. October, 1872.
Robinson, R.	Welland	1. September, 1871.
Stalker, John	Kent	2. April, 1872.
Stevenson, G. W.	Ontario	2. May, 1872.
Shaw, Thos.	Wentworth	2. May, 1872.
Scott, D. H.	Lennox	2. May, 1872.
Sinclair, Colin	Elgin	1. June, 1872.
Sinclair, J. C.	Perth	2. April, 1872.
Sparling, A. W.	Haldimand	3. November, 1872.

NAME.	COUNTY.	SUBSCRIPTION RETURNED, AND DATE.	SCHOOLS. NOTE.—Each School to receive a minimum grant of \$400 for the year.	Number of Teachers employed.	AVERAGE ATTENDANCE	Apportionment at the rate per pupil first half-year
Scott, Alex. A.	Oxford	1.....December, 1871.	Trenton	2	22	198
Smith, James R.	Welland	3.....November, 1872.	Uxbridge	2	22	198
Smith, W. E.	Kent	1.....October, 1871.	Oakville	2	21	189
Smyth, T. H.	Ontario	3.....November, 1872.	Bradford		20	180
Sanderson, Thos.	Peel	2.....July, 1872.	Elora		20	180
Snyder, Thos.	Waterloo	3.....November, 1872.	Fonthill		20	180
Thompson, W. H.	Haldimand	3.....August, 1872.	Kemptville	2	20	180
Willson, Robt. E.	Haldimand	1.....August, 1872.	Milton		20	180
Williams, Daniel	Durham	2.....August, 1872.	Port Perry	2	19	171
Woodhull, T. B.	Middlesex	1.....September, 1872.	Port Rowan		19	171
Wallace, Joseph	Carleton	2.....November, 1872.	Windsor		19	171

HIGH SCHOOL APPORTIONMENT, FIRST HALF 1872.

(Arranged in the order of amounts paid).

SCHOOLS. NOTE.—Each School to receive a minimum grant of \$400 for the year.	Number of Teachers employed.	AVERAGE ATTENDANCE	Apportionment at the rate of \$9 per pupil for first half-year.
London	6	162	1458
St. Catharines*	4	134	1206
Hamilton*	5	130	1170
Galt*	12	121	1089
Napanee	4	114	1026
Peterborough*	6	112	1008
Toronto	4	111	999
Cobourg*	4	103	927
Whitby	3	93	837
Ottawa	5	77	693
Kingston*	4	71	639
Oshawa	2	67	603
Owen Sound	2	67	603
Dundas	2	64	576
Iroquois	2	64	576
Picton	3	63	567
Port Hope	3	62	558
Belleville	2	61	549
Brampton	2	61	549
Brantford	2	61	549
Brockville	1	60	540
Stratford	2	58	522
St. Thomas	2	53	477
Simcoe	2	51	459
Perth	2	49	441
Chatham	2	45	405
Bowmanville	3	45	405
Woodstock	2	42	378
Barrie	2	41	369
Ingersoll	2	41	369
Ormeau	2	41	369
Newburgh	2	40	360
Smith's Falls	2	40	360
Welland	2	40	360
Gananoque	2	39	351
Colborne	2	38	342
Grimsby	2	38	342
Paris	2	37	333
Thorold	2	37	333
St. Mary's	2	36	324
Newmarket	2	34	306
Sarnia	2	33	297
Vienna	2	32	288
Weston	2	32	288
Williamstown	2	32	288
Clinton	2	31	279
Goderich	2	31	279
Morrisburgh	2	31	279
Cayuga	2	30	270
Farmersville	2	30	270
Guelph	2	30	270
Lindsay	2	30	270
Beamsville	2	29	261
Drummondville	2	29	261
Newcastle	2	29	261
Caledonia	2	28	252
Dunnville	2	28	252
Prescott	2	28	252
Wardsville	2	28	252
Smithville	2	27	243
Strathroy	2	27	243
Kincardine		26	234
Norwood	2	26	234
Fergus		25	225
Markham	2	25	225
Waterdown	2	25	225
Manilla	2	24	216
Scotland	2	24	216
Mount Pleasant	2	23	207
Richmond Hill	2	23	207
Port Dover		22	198

*Collegiate Institutes, and as such, receive \$375 additional each half year.

SCHOOLS.	Number of Teachers employed.	AVERAGE ATTENDANCE	Apportionment at the rate per pupil first half-year
NOTE.—Each School to receive a minimum grant of \$400 for the year.			
Trenton	2	22	198
Uxbridge	2	22	198
Oakville	2	21	189
Bradford		20	180
Elora		20	180
Fonthill		20	180
Kemptville	2	20	180
Milton		20	180
Port Perry	2	19	171
Port Rowan		19	171
Windsor		19	171
Berlin		18	162
Collingwood	2	18	162
Packenham	2	17	153
Renfrew	2	17	153
Alexandria		16	144
Arnprior		16	144
L'Orignal	2	16	144
Vankleekhill	2	16	144
Orangeville	2	15	135
Osborne	2	15	135
Stirling		15	135
Brighton	2	14	126
Metcalfe	closed.	14	126
Niagara		14	126
Cornwall		13	117
Streetsville	2	13	117
Oakwood	2	12	108
Carleton Place	2	11	99
Pembroke	2	10	90
Almonte		10	90

I. Papers on Practical Education.

1. CORPORAL PUNISHMENT.

Prof. W. H. Payne closes No. 5 of his articles on "School management," in the *Kansas Educational Journal*, with the following: "Corporal punishment is universally regarded as a disgrace in cases where the propriety of its infliction is questioned. Troubles, near or remote, are almost sure to arise. As a means of inducing caution, where it is so much needed, the following are suggested:

- "1. Use corporal punishment only as a last resort, in case of grave offences.
- "2. The pupil's guilt should be established beyond a doubt.
- "3. As far as possible, both teacher and pupil should be free from passion.
- "4. The rod should never be applied to the body above the waist.

2. WHAT A TEACHER SHOULD BE.

A wise legislator, a righteous judge, a prompt executive, an efficient workman, a competent leader, a liberal partisan, a pleasant companion, a warm friend, a good man: apt to teach, acquainted with human nature, earnest, prompt, clear, accurate, enthusiastic, diligent, systematic, dignified, firm, courteous, forbearing, cheerful, patient, persevering.

3. THE NIGHT SCHOOL.

Many an honest-minded youth, after being apprenticed to a trade, begins to realize his deficiency in useful mental acquirements. He bitterly laments the opportunities which in his school days he heedlessly neglected. Then he finds out for the first time, perhaps too late, how necessary a "little learning" is to the achievement of success in any pursuit in life; but the discovery often comes too late. He has no longer the time to attend the free school, nor the means to pay for night tuition.

In some parts of the United States this fact has forcibly impressed itself upon the minds of public men, and a movement toward providing such persons with free tuition, by throwing open the night schools after night, has been inaugurated. The Quaker City, the van in this good enterprise. No less than eighteen of the public schools were lately opened for adults over seventeen years of age, and two for coloured men and women. By this arrangement upwards of six thousand persons, chiefly boys learning a trade, are given the opportunity of mental improvement at the public expense. This system, we observe by a Philadelphia paper, has passed from the condition of experiment to that of very great utility. From small beginnings the demands for tuition of the part of the adult class have increased until it has reached the

able proportions. They prove conclusively that the system of public education is not meant only for youth.

It is in the highest degree important that men and women who have been deficient in early instruction, and who feel constantly their ignorance in the business and intercourse of everyday life, should have the means of improving themselves by public assistance. These persons are for various reasons, anxious, attentive and patient scholars. They understand their own wants and are grateful for the opportunities of learning. There is also in the city named a public night school for artisans. The instruction is of a scientific and technical character, and must be of the highest advantage to mechanics and artisans in their business duties. The branches taught are practical mathematics, mechanical and civil engineering, drawing, natural philosophy, with special reference to the steam engine, chemistry, anatomy, hygiene, business forms and penmanship. It has been found by experience that this school, at former sessions has been highly beneficial; and this year, encouraged by previous results, the Trustees have added to its efficiency by placing a large collection of the most approved scientific instruments at the disposal of the students.—*London Free Press*.

4. WHAT TO DO WITH DISCOURAGED TEACHERS.

Many true teachers become disheartened by the exalted standards which are placed before them. So do artists. But all true artists very well understand that such moments of self-distrust and agonized longing are partial proofs of their calling, and of their fellowship with the masters of art who have preceded them. So they reassure themselves, and address themselves again to the task, bow reverently before the ideal, and press forward, strong of will, valiant, and persistent. What shall we do, then, with discouraged teachers?

1. Congratulate them. He who has found that there is something exceedingly desirable which he does not possess, will be more likely both to seek and secure it than if he vainly imagined himself already the possessor of it.

2. Encourage them to give in detail the several grounds for this feeling of discouragement. This simple statement of them will be profitable. A good exercise for a teachers' meeting.

3. Answer with all frankness the several difficulties presented. Dissipate by your most assuring method the merely imaginary trouble, and emphatically endorse all that you believe to be real.

4. Give help. Train, illustrate, *drill* the teachers. If they cannot master the art of questioning, show them *why*, and then show *how*. If they handle illustrations awkwardly, spend one evening or more in "trying on" illustrations, and showing how they may be most effectively employed.

REV. J. H. VINCENT.

5. EDUCATING YOUNG WOMEN WITH YOUNG MEN.

President White, of Cornell University, has recently visited all the colleges of the country in which young women are educated with young men, and has given his views on the subject at a meeting in Boston. We infer that, on the whole, he is favourable to the plan, and it is probable that it will be introduced in his University. He says that at Oberlin the best reading of Tacitus was by a young lady; at the Michigan University, a lady carried off the mathematical honours, and the girls stood the highest in the botany classes; and at Antioch College they ranked very high in the German classes. So far as he could learn, the young ladies held their own remarkably well.

II. Biographical Sketches.

1. MR. DE LA HAYE.

The late Mr. De la Haye was well known to many in years gone by. His name has been a household word in the families of men who, when boys, attended Upper Canada College. A brief record, therefore, of his past life, will no doubt be read with interest:—A native of France, he was born in Bretagne, May 1799, and was therefore, when he died, in the 74th year of his age. He took his degree at the College of St. Malo, after which he resided for several years in England, as a teacher of French. When Lieutenant-Governor, Sir John Colborne (afterwards Lord Seaton) founded a College in Toronto, for the higher education of the youth of the country, Mr. De la Haye was appointed French master. Mons. and Madame De la Haye, to whom he was married before venturing to seek a new home across the ocean, arrived here (then "little" York) in the fall of 1829, and in January, 1830, Upper Canada College was inaugurated, Dr. J. H. Harris being Principal. In 1844

M. De la Haye revisited France, and passed a few happy months among the friends of his youth and the scenes of his boyhood, and up to 1856 he continued to fill the position which he had thus occupied for more than a quarter of a century. Having served the college so long and so faithfully, the authorities recognized his merits by granting him a pension; and, always attached to a country life and rural pursuits, he then settled on the large and attractive property, in the Gore of Toronto, which he had acquired many years previously, in view of the cherished wish and hope to spend the rest of his days, in peace and quiet, "on his own ground." In 1859 the beloved partner of his life, who had done so much to make his home happy and his condition prosperous, was taken away; and, though he felt this great loss, his country habits, his fields and his crops, continued to be a pleasure and a comfort, until, prostrated by the malady which has proved mortal, it became necessary to remove him into town. In the class-room Mr. De la Haye was popular with all; of the many hundred College boys who passed through the French Department in his time, we feel sure that no one retains, in after days, other than a feeling of, it may be said, filial regard towards him; while those who lived under his roof, and shared the domestic fireside, will always remember Madame De la Haye's kindly care and attention as the greatest affection; and in proof of Mons. De la Haye's high esteem, a handsome and valuable testimonial was presented to him, soon after leaving college, by his old pupils.

2. REV. MR. GUNNE.

The subject of our sketch was born in the town of Mullingar, Ireland, on the 12th of February, 1808, and died at his residence, 58th year when he died. After a general education he left home in 1838, to become a missionary of the Church of England in Limerick, which position he held about six years, when he returned to Trinity College, Dublin. Mr. Gunne, after deciding to come to Canada as a missionary of the Church of England, and arrived here in 1844 in company with Dr. Sanderson. They were both ordained by the late Bishop of Toronto, and Mr. Gunne came to Florence and immediately entered upon his work, which he continued to perform with unceasing energy to the time of his death. His early labours in this district were very arduous, his parishes including the villages of Glencoe, Wardsville, Aughrim, Florence, Dawn Mills, Thamesville, Kent Bridge, and other places, and throughout the large district included by these places the name of "Parson Gunne" is a household word. Of late his labours have been confined principally to Florence and Aughrim, until last year, when he was appointed rural dean for the County of Kent. In addition to his clerical duties, he has been local superintendent of schools and a member of the boards of public instruction for the Counties of Middlesex, Elgin, Kent, and Lambton, frequently acting as chairman, and the editor of this paper recalls with interest his first examination for school teacher in 1859, under Mr. Gunne, at London. In history, mathematics, and Greek classics, Mr. Gunne was exceedingly well versed; and his love for reading increased to his latest hours, his splendid library being one of the largest and best selected in West Ontario.

Mr. Gunne was a sound Christian, and an orthodox preacher of Christ and Him crucified. A man of great business qualifications and far-seeing judgment, his advice was sought by all. Many a neighbour owes his extrication from grave difficulties to this advice always freely given, and many a poor settler owes the possession of his farm to the intercession of this good man, either with the Government or importunate creditors. The unfailing resort of all who were in difficulties was to "ask the parson."

Mr. Gunne was a man of great energy, and his heart was in his work. The most laborious duties were most cheerfully performed, and no amount of fatigue or discomfort could banish the ready smile which was wont to greet his friends. Those who knew him best will be the first to admit that "We ne'er shall look upon his like again."

"His life was gentle; and the elements
So mixed in him, that Nature might stand up
And say to all the world, this was a man!"

—*London Herald*.

3. THE REV. MR. SENKLER.

The Rev. E. J. Senkler was a native of Dorking, England. He graduated at Cambridge in 1824, taking a high degree, and was ordained on the 23rd December, 1826. He came to Canada in 1843, and settled in Brockville in 1847. After arriving in Canada, Mr. Senkler occupied the position of Rector of the High School of Quebec for about a year, a position, from his scholastic abilities, he was well qualified to fill. For a considerable time after his arrival in

Brookville, he held service in connection with the Church of England, in the Stone School-house above the town. He was for several years a member of the Board of Education, and was also a member of the Board of Examiners for the University of Toronto. The deceased gentleman was a fine scholar, probably one of the first mathematicians in the Dominion. He was well versed in astronomy, meteorology and various other sciences. He was a man of broad views and true Christian charity, unfettered by Sectarianism. A staunch churchman, but on friendly terms with ministers of all denominations, always ready to subscribe to any good work. Kind and benevolent in his disposition, honest in all his dealings, and ever ready to lend a helping hand to the plodding and earnest student, the Rev. Mr. Senkler will be greatly missed from our midst, while his memory will long remain green in the hearts of all who had the honour of his acquaintance. The deceased gentleman gave up all labour several years ago, and passed his latter days among his books, of which he was an ardent admirer almost to the last. Thus are the old and the worthy passing away, and we, too, must soon follow. "Be ye also ready, for in such an hour as ye think not, the son of man cometh."—*Brockville Recorder*.

4. ANDREW THOMPSON, ESQ.

Andrew Thompson, Esq., Manager of the Merchants' Bank, Belleville, formerly of Brockville, died at his residence, Belleville, on the 28th October. The deceased was the oldest of three. He was born, we believe, in Cupar, Fifeshire, and commenced his career in Canada as a clerk in the store of the late Hon. who soon after took him into the Bank here as a clerk. He performed his duty, and so became honoured and died respected by all.—*Brockville Recorder*.

5. J. BELLAMY, ESQ.

The deceased gentleman was a native of Vermont, but came to Belleville, Ontario, many years ago. He has been a resident of the United States, and in his long life has always borne the reputation of a good, upright, honest Christian. He was highly respected by all who knew him, and his death removes another link from the path leading from the early history of our country to the present progressive state. A sincere and consistent Republican, in his death the party has lost an esteemed member. —*Belleville Recorder*.

6. LIEUT. COL. DRUMMOND

Lt.-Col. Thomas Drummond, of Rockwood, was born at Edinburgh and emigrated early to Canada. He sailed a steamboat on the Richelieu Canal, and was a contractor. He had been connected with the militia organization since the rebellion of 1837-8, and up to a few months ago he was commandant of the Kingston Volunteer Battery of Artillery, in which he always took great pride, and by his indefatigable zeal and industry, he made it one of the best batteries in the Dominion, while at the same time he was beloved by the officers and men. Colonel Drummond was a distinguished member of the Masonic Society, being at the time of his death representative of the Grand Lodge of Scotland. He was also Bursar of the Rockwood Asylum for the last seven or eight years, and in all the various positions he has held he invariably commanded the respect and esteem of all who enjoyed the pleasure of his acquaintance.

7. CAPTAIN THOMPSON WILSON.

Deceased was born in 1791, and when a young man joined the artillery corps and served through most of the Peninsular war, and in one action received a severe sabre cut. He was present at the battle of Waterloo, and received medals for his good conduct and bravery. He came to Canada with his corps in 1837, and was engaged in active service during the rebellion 1837-38, at the close of which he was appointed barrack-master in London, which he held until 1854, when he retired with the rank of captain on half-pay, his promotion being the reward of merit and ability. Deceased was one of the oldest Masons in Canada. On the cover of the coffin were placed the Masonic regalia, and clasps and medals of deceased. There were four clasps, bearing the names of Toulouse, Nive, Pyrenees, Vittoria, and Waterloo, and long service and good conduct medals.—*London Herald*.

III. Education in Various Countries.

1. TECHNICAL EDUCATION IN EUROPE.

Perhaps we cannot better convey an idea of what is meant by technical education, than by exhibiting in outline the system as it now in operation in Europe, and particularly as it has been or-

ganized for some years in the small State of Wurtemberg in Germany, with a population of 1,778,000. We derive our facts from the volume by Mr. Scott Russell. Mr. Russell gathered his facts while personally examining the workings of the system. The Wurtemberg system embraces:

1. A Polytechnic University, at Stuttgart, intended for the highest classes of professional men, civil engineers, mechanical engineers, architects, etc. There is a course for mercantile and commercial classes, and one for chemistry, and its application to chemical arts and manufactures, etc. There are fifty-one professors and teachers, a chemical and a physical laboratory, mineralogical museums, modelling rooms, mechanical work shops, rooms for drawings, a botanical garden, and an astronomical observatory.

2. A second and even more remarkable educational institution is the school for the building trades. This school is intended for building crafts and tradesmen, and is now one of the most remarkable and popular schools on the continent. Here lower class builders are trained for masters, constructors of public works, etc. Plasterers, tilers, engravers, smiths, gardeners, etc., are educated for foremen and masters. There are twenty-eight professors and masters. The school is crowded by those for whom it was intended, and the graduates are eagerly sought for everywhere on the Continent for the superior excellence of their services.

A third class of institutions are wisely situated, not in the metropolis, but in the country, and they are distributed through the districts. They are schools for country occupations and trades, and are called "agricultural and forestry establishments."

1. There is first a great institution at Hohenheim, with twenty-one masters. It is divided into the farming school and the gardening school and special agricultural courses. It has under it three practical farming schools in three different districts, and each school has under its care 400 square miles of territory. A large brewery is attached to one of these establishments, and there are subordinate schools throughout the country. There are also winter evening schools in the villages, and the practical result is that in one year, 1868, there were 12,040 persons, in 523 places, enjoying thorough agricultural instruction.

Supplemental to the agricultural education of the farmers is an institution for the study of anatomy, physiology, training and diseases of animals. It is the veterinary college of Stuttgart. Attached are a hospital, in which last year 775 horses were treated; a cattle hospital in which 826 animals were treated; a dog hospital in which 213 animals were treated; a smithy in which 4,000 animals were shod.

With such upper schools for technical training, there is a complete organization of upper and lower schools leading up to them. Otherwise these higher schools could not be filled with fit pupils. There are, therefore, eighty-eight colleges or public schools in two divisions of classical and science schools. In the classical there were 4,565 pupils, and in the science schools 4,734. These two classes of pupils are again subdivided into upper and lower, called gymnasiums and lyceums, and in the science schools a school and college, or *real* school and science college. Below these are the elementary schools, including technical schools of the humblest kind in which girls are taught housekeeping, and boys are trained to the simplest duties of life.

It is impossible in our limited space to give any adequate view of the details of the working of these great institutions, so wisely provided for the youth of the nation, extending over all the divisions of society, embracing every kind of occupation and aiding every branch of industry. The comprehensive method, the systematic development and the admirable manner in which its details are fitted to the special aims of practical life are the characteristics of this system of education. The rulers of the state have deemed it one of their higher duties to organize and apply a system which shall make the most of each citizen and fit each one for the most skilful doing of his special work in life. If a skilled workman is worth three times the value of a rude one, then Wurtemberg, by her educational system, virtually trebles her population and the value of her industries.

This system pervades the entire national education, and knows no distinction of social rank. Provision is made by which the poor boy who is compelled to work for his living shall not be deprived of technical education. Sometimes he is taught an hour before work in the morning or after work in the evening, or other hours more convenient may be found, but he is provided for so that even while earning his bread he may be learning to be a skilled workman and a good citizen.

The whole cost of this great national blessing is about sixty-five cents per capita of the population of Wurtemberg.

RESULTS OF TECHNICAL EDUCATION.

To enumerate the benefits of the system would require a volume.

We can only notice a few results. The general character of the people is greatly improved, the lower grades of society show a degree of refinement and intelligence far above the same classes in England and America. Master tradesmen and employees exhibit a fellow feeling; growing out of the fact that they have gone through the same schools and the same training. The antagonism in other lands between workmen and employers, a threatening evil in these days, is rare in Württemberg. The technical schools attract numerous strangers, who often equal the native pupils in numbers, and this is no small benefit. Work of all kinds, public and private, whether in mercantile, farming, building, engineering, or in any other line, is well done, saving immense waste and loss to public and private interests. And, finally, all the industrial pursuits of the nation are far in advance of other countries. Scott Russell says England will require many years of technical education to reach the point Germany has already gained. Railways, for example, are built more cheaply and far better in Germany than in England, because the pupils of Germany's industrial and technical schools have been the builders. The eyes of the world have in late years been fixed on Prussia on account of the wonderful success of her armies, a success due to the same cause, viz., the application of technical education. Behind every musket is an intelligent, highly trained mind.—*New York Evening Post*.

2. EDUCATION UNIVERSAL IN PRUSSIA.

Nothing more forcibly strikes the foreign sojourner in Berlin than the universal intelligence of the lower classes of society. Your cabman speaks to you—if you can but comprehend him—in perfectly grammatical German. Your washer-woman's bill is a correct model of neat and handsome penmanship and correct spelling; your wife's seamstress is able to discuss the latest publications, the views in the political and fashionable world, and examines the books on the table with a critically experienced eye. To be sure their universal intelligence has a tendency to make the hewers of wood and drawers of water somewhat arrogant; and, by the law of compensation, the cabby and the washer-woman make up for the absence of ignorance by a pertness and independence of manner which are to be met with, in an equal degree, in no other European capital. Yet the fact that they can all read, write and cypher, brings the result of the Prussian educational system more vividly to the mind than any other fact could—unless it were the effect of it seen in the army. The Prussian state has long made equality of intelligence—as far as schooling can effect it—a compulsory matter. All children, as soon as they get out of their frocks, must go to school; and the state prescribes when that should be. The failure of any child to attend school is punished vicariously in the person of the parent, who is fined by an ascending scale of penalties, and, if he or she still proves obdurate, is incontinently thrown into prison. Indeed, Fatherland assumes rather more than a patriarchal authority over its children from the moment that they are able to lispen its guttural alphabet, until they are in their forties; for, taking them at the tender age of dawning intelligence, it makes them submit to the pedagogue's rule till they are large enough to become a certain numerical figure in a certain numerical regiment; and in this vague identity a man may be compelled to remain, if Fatherland so chooses, from seventeen to forty-two. A recent report of the Berlin schools for 1871 gives some interesting figures, and betrays the fact that one-ninth of the total population of Berlin attends school with military regularity. Over ninety-three thousand scholars were reported for that year, the number of schools being two hundred and eighteen, and under the supervision of sixty-one male and one hundred and thirty-seven female teachers, and five hundred and sixty-six ushers, or sub-teachers. The salaries of these instructors, who are official personages, would amaze young gentlemen and ladies during the winter season in our own rural districts. The highest pay for head-masters is about seven hundred dollars a year; the salaries range from this figure to three hundred dollars, which is the amount received by the junior ushers; while the female teachers receive stipends ranging from three hundred to two hundred and twenty-five. The Berlin schools are further more provided with two hundred sewing teachers, having salaries of fifty-five dollars a year, and fifteen assistants, at forty-five dollars. It costs Berlin about half a million dollars a year to support her schools, which is cheap, especially when it is considered how thorough and substantial an education is thus imparted. It is interesting to be told that the parents of Berlin contributed, during 1871, about seven thousand dollars to the public treasury in the ways of fines, while over fifteen hundred papas and mammas were imprisoned for not compelling Fritz and Gretchen to go to school, and keeping them there.

3. A QUIET BUT NOBLE SPEECH AT THE EXETER ACADEMY CELEBRATION. *

A speech of much feeling and interest was made by Mr. John L. Sibley, the librarian of Harvard College, at the recent anniversary of Exeter Academy. This gentleman was made known to the alumni as the donor, from his small estate, of the sum of \$15,000 to increase the charity scholarships of the institution. For several years, since this gift began to be made, Mr. Sibley has succeeded in keeping it secret, but it had become known to so many persons that he finally consented to make it known at this gathering. The speech in which he told the story will never be forgotten by those who heard it, for its touching pathos and the sense of obligation to his *alma mater* which it displayed. He disclaimed any credit for the gift which he said was suggested by his father—a hard-working farmer of Maine, who never had any opportunity to acquire learning for himself, but who, riding through Exeter in 1797 and seeing the school-boys in the Academy yard, resolved he would educate his son there, and sent him twenty years later to be a scholar on the foundation, while he continued to toil for the support of his family in the Maine woods. Mr. Sibley drew a picture of the academy as it then was, of his classmates, his delight in his studies, and the joy with which his father heard of his progress. Years afterwards, when all his father's family had died, except the old man and himself, and his father wished to dispose of his little property, he said "he must remember Exeter," and gave his son \$100 to send the trustees. Mr. Sibley added a hundred or two more and sent it. Then when his father spoke of bequeathing the rest of his property to him, he asked him if he would not give it to Exeter, and his father told him to do what he pleased with it. So after his father's death he had taken \$5,000, the amount of the patrimony, and brought it to the trustees, to be invested, under certain conditions, for the benefit of poor scholars. Afterwards he had acquired \$5,000 more and invested that here too—and now it had grown to be \$15,000. And if the rest of the alumni would make a new year's present next January to their *alma mater*, he would promise to add \$5,000 more to the Sibley charity fund. Mr. Sibley is not an orator, nor has he had the reputation of great liberality, so that his speech, rich in natural eloquence and emotion, and his generous gift were equally a surprise and a delight to all who heard him. Some touching passage in his private life, very honourable to him, and known to a few of those present, added to the emotion with which he was heard, and there was scarcely a dry eye in the audience as he made his confession.

4. UNIVERSITY EXAMINATION FOR LADIES.

Good news for ladies reaches us from England. University examinations for women are making very distinct progress in the mother country, as the last report of the Cambridge Syndicate, clearly proves. The examinations were held in June, and at seven centres—Cambridge, Cheltenham, Liverpool, London, Manchester, Plymouth and Rugby—one hundred and thirty-two candidates actually went through the test—an increase of twenty-three on the number examined last year. Some of the general remarks of the examiners are somewhat surprising: as for instance, that "none of the candidates showed any great knowledge of Divinity." Religious feeling is so widely spread amongst women that one feels surprised at this neglect of what might be supposed to be a favourite study. "In English History the answers to the papers were decidedly good." The report as to English Language and Literature is also gratifying; out of 119 papers only 15 were unsatisfactory; the others were very creditable, and 11 were excellent." Of these 11, four papers were of very great merit in all respect—for knowledge of facts, for clear and vigorous expression, for real independent thoughtfulness." The examiners add that some papers were marked by "irrelevance," and others by "self-distrust." In "English composition" the "average quality of the essays" was good; but, as a caution, "some of the candidates need to be reminded that theological common-places and pious reflections do not serve to eke out an imperfect knowledge of a subject to which they are irrelevant." The papers sent up in Latin were, it is reported, on the whole very fair. "They all showed a real knowledge of the elements of the language." These are the most favourable passages of the report: but there are some bitters behind. There was "considerable grammatical inaccuracy" in the Greek; in French literature there was not unnaturally "lamentable ignorance;" in mathematics only two candidates appeared, and neither could pass; there were only seven aspirants for logic, and of these three

* The Editor of this *Journal* has had the pleasure of knowing Mr. Sibley for many years, and rejoices in this evidence of the nobleness of his friend's character.

failed; and in political economy there were only ten who presented themselves for examination. In drawing and the history of art "the number of candidates was too small to warrant general observations," and there were only four candidates in music.

The training of women in the duties of domestic economy is now attracting great attention in England, and an institution is soon to be established under the patronage of the Earl of Shaftesbury, and other distinguished philanthropists, for the purpose of teaching the art of housekeeping. Lessons in cookery and baking bread are to be given, and lectures are to be delivered on food, cooking, house-keeping, the laws of health, and other subjects of importance.

5. COMPULSORY EDUCATION.

Wendall Phillips is a firm believer in compulsory education. He says:—

"I do not believe the State will ever do its duty until it fits the man to get his bread. I think the State is bound to give to the child of every man in the community, poor and rich, the opportunity of a book education, and of learning a trade, and in the last years of his apprenticeship he should get his living out of it. We have hitherto elevated the brain until we starved the very feet. The school system of to-day does not contemplate the fact of a man having a stomach, and needing to be able to get something to put into it. The education of to-day is a monster; it is almost as bad as that of the lower classes in England, who know only how to use a spade or watch a spindle."

IV. Miscellaneous.

1. ODD CHANGES OF MEANING.

A correspondent of *Notes and Queries* writes as follows of the changes of meaning that often take place in the lapse of time in words and phrases:—

"The first verse of Dean Whittingham's version of the 114th Psalm may be quoted as a curious instance of a phrase originally grave in its meaning becoming strangely incongruous:—

"When Israel by God's address
From Pharaoh's land was bent,
And Jacob's house the stranger's left
And in the same train went."

—*Manchester Paper.*

"I had just read the above when, glancing at an American paper on my table, I found the following 'from a correspondent':

"Some introductory lines in Southey's 'Thalaba' require correction. They read as follows:

"Who at this untimely hour
Wandering o'er the desert sands?
No station is in view."

"Now this is no longer true. The Great Desert is crossed by a railway, and there are several stations. The editor advises that in any future edition of Southey the present altered state of things should be shown by a note."

Many other instances might be adduced in which a comic effect is produced in a passage of grave and even lofty diction by the use of some phrase which has become slang. Thus in the opening of one of Dean Milman's theological works it is written, "The great drama of the Hebrew dispensation had been played out."

2. SMALL SAVINGS.

Five cents each morning—a mere trifle. Thirty-five cents a week—not much; yet it would buy coffee and sugar for a whole family, \$18 26 a year—and this amount invested in a savings-bank at the end of each year, and the interest thereon at six per cent, computed annually, would in twelve years amount to more than \$670—enough to buy a good farm in the West. Five cents before breakfast, dinner, and supper, you'd hardly miss it, yet it is fifteen cents a day—\$1 05 per week. Enough to buy a small library of books. Invest this as before, and in twenty years you have over \$3,000. Quite enough to buy a good house and lot. Ten cents each morning hardly worth a second thought; yet with it you can buy a paper of pins or a spool of thread. Seventy cents per week—it would buy several yards of muslin. \$36 50 in one year—deposit this amount as before, and you would have \$1,340 in twenty years; quite a snug little fortune. Ten cents before each breakfast, dinner and supper—thirty cents a day. It would buy a book for the children. \$2 10 a week, enough to pay a year's subscription to a good newspaper. \$109 59 per year—with it you could buy a good melodeon, on which your wife or daughter could produce sweet music, to pleasantly while the evening hours away. And this amount invested as before, would in forty years produce the desirable amount of \$15,000.

Boys, learn a lesson. If you would be a happy youth, lead a sober life, and be a wealthy and influential man—instead of squandering your extra change, invest it in a library or a savings bank. If you would be a miserable youth, lead a drunken life, abuse your children, grieve your wife, be a wretched and despicable being while you live, and finally go down to a dishonoured grave—take your extra change and invest it in a drinking saloon.

3. WHY TIMBER IS PAINTED.

When water is applied to the smooth surface of timber, a thin layer of the wood will be raised above its natural position by the expansion or swelling of the particles near the surface. In colloquial phrase, working men say that when water is applied to a smooth board, the grain of the timber will be raised. Every successive wetting will raise the grain more and more; and the water will dissolve and wash away the soluble portions with which it comes in contact. As the surface dries, the grain of the timber at the surface, having been reduced in bulk, must necessarily shrink to such an extent as to produce cracks. Now, if a piece of oil-cloth be pasted over the surface, the timber will be kept quite dry. Consequently the grain of the wood will not be subjected to the alternate influences of wet and heat. As it is not practicable to apply oil-cloth already made, a liquid or semi-fluid material is employed for covering the surface, which will adhere firmly, and serve the purpose of oil-cloth in excluding water that would otherwise enter, to the injury of the work. Metallic substances are painted to prevent oxidation or rusting of the surfaces which may be exposed to moisture.

It is of primary importance to make use of such materials as will form over the surface a smooth and tenacious pellicle, impervious to water. Any material that will not exclude water sufficiently to prevent the expansion of the grain of the timber, or the oxidation of metallic substances, must be comparatively worthless for paint. Linseed-oil possesses the property of drying when spread on a surface, and forming a tenacious covering, impervious to water. Spirits of turpentine, benzine, benzole, and certain kinds of lubricating oil, all of which are frequently used in preparing paint, will not form a covering sufficiently tough and hard to resist the action of the water; for which reason, the paint that is made by employing these volatile materials will be found comparatively worthless for outside work. A pigment is mingled with the oil to prevent the timber to which the paint is applied from absorbing the oil. The design is not to saturate the wood with oil, but simply to cover the surface with a coating resembling a thin oil-cloth.

V. Educational Intelligence.

—Chicago pays her teachers according to their efficiency, making no distinction between males and females.

—Boston expends \$30,000 annually for musical education in its public schools.

—Virginia has 2,800 public schools in operation under the new school law.

—New Hampshire, Michigan, California, and Texas have determined to try the experiment of compulsory education.

—NORMAL SCHOOLS.—We are happy to observe that the organization of Normal schools, those indispensable agencies in the management of any system of public instruction, is attracting deserved attention among our friends in the South. In other sections of the country much progress has already been made towards providing for the education of teachers. Illinois has a Normal University, with an endowment of \$300,000. New York has eight Normal schools, for the support of which \$150,000 are appropriated annually. Massachusetts has five, Vermont three, and New Jersey and Connecticut each one.

—TEACHERS' INSTITUTES.—The value of Teachers' Institutes has been so conclusively demonstrated, that in some of the States these associations are encouraged and sustained by annual appropriation. New York expends \$20,000 a year for their maintenance; Maine, \$4,000; Connecticut, \$3,000; Massachusetts, \$3,000, and Minnesota, \$2,000. By-law warrants on the county treasurer, in annual sums of about \$200, are honoured, in support of institutes, in New Jersey, Iowa, Michigan, Vermont, Indiana, Arkansas, Ohio, California, and Pennsylvania.

6th, 7th, 10th, 14th, 15th—18th, 22nd, 23rd, 25th, 26th, 27th. Severe thunder storm, 6th, between 7.30 and 9 p.m. Trees prostrated, houses unroofed, and walls thrown down.

GONDERICH.—Wind-storms, 10th. Fog, 3rd. Snow, 10th. Rain, 6th, 9th—14th, 17th, 18th, 25th, 26th.

STRATFORD.—Hail, 1st. Lightning and thunder with rain, 6th. Snow, (first) 10th. Indian summer, 20th—24th. Fogs, 8th, 17th, 18th, 25th, 29th. Snow, 10th, 15th, 19th. Rain, 1st, 6th, 12th, 13th, 17th, 18th, 25th, 26th, 27th. Difference of mean monthly temperature from average of 11 years, —1.23.

HAMILTON.—Very large lunar corona, 11th. Rose-coloured auroral arch on 14th, (at 6.25 p.m.) highest point about 75° above horizon. *Hamamelis virginica* in blossom, 19th. Fogs, 17th, 25th. Snow, 11th, 15th. Rain, 1st, 6th, 7th, 12th, 15th, 17th, 18th, 22nd, 25th, 26th, 27th.

SIMCOE.—Snow, 14th. Rain, 2nd, 6th, 7th, 12th, 13th, 17th, 22nd, 24th—27th.

WINDSOR.—Lightning and thunder with hail, 6th. Meteor from S.W. of *Pegasus* toward horizon at north. Lunar halo, 10th, 12th, 18th. Wind storm, 15th. Fog 24th. Rain, 6th, 12th, 17th. 25th, 26th. The aurora observed on 14th was of a brilliant scarlet color.

VII. Departmental Notices.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

POWER OF THE "RETIRING TRUSTEE."

In reply to many inquiries on this subject, we answer: That by the New School Act the lost power of the "retiring trustee" has been restored. Up to 1850, he had the same power as any other trustee, but in that year it was enacted that he could not lawfully sign an agreement with a teacher, the duration of which would extend beyond his period of service. That clause has now been repealed and the "retiring trustee" has now precisely the same powers in all respects as either of his colleagues.

NEW SCHOOL REGISTERS.

In reply to numerous applications for Public School Registers, &c., we desire to say that the new edition (including the modifications in the courses of study required by the new School Act) has been sent out to the County Clerks for distribution through the Inspectors. No copies will be sent out direct to individual schools from the Education Department. Trustees will, therefore, apply to the Inspector for them.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now being established, are required, and consent to employ two masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High

Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of last year), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws.

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The entire set of Examination Papers for First, Second, and Third Class Teachers, neatly stitched, can be sent free of postage on receipt of sixty cents. Those used in the Normal School during the last and previous Sessions, or those used at the County Examination for Second and Third Class Teachers, can also be sent.

SCHOOL LAW LECTURES—PART II.

THE SCHOOL LAW—Official Regulations and Decisions of the Superior Courts, relating to Township, City, Town and Incorporated Village; Municipal Councils; School Section Boundaries; City, Town and Village Public School Boards; Arbitrations and Awards; Public School Inspectors; Boards of Examiners; Chief Superintendent and Council of Public Instruction; also, the Acts relating to Roman Catholic, Protestant and Coloured Separate Schools. With a copious Index to Parts I. and II. Being the substance of Lectures to Normal School Students. By J. GEORGE HODGINS, LL.D., Barrister at Law, Deputy Superintendent of Education for Ontario.—Price, 75 cents; or 80 cents free by mail.

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No. 1.

I. IMPROVEMENT OF SCHOOL HOUSE ARCHITECTURE.

(For "Contents" see last page.)

With a view to aid Trustees in the desire to improve the style of the architecture of their School House, we have prepared several new plans, and insert a selection from them in this number of the *Journal of Education*.

We are the more anxious to insert these plans at this early day, in order that they may be available to the Trustees before they give out contracts in the spring for the erection of the new School Houses. We cannot but be gratified at the undeniable desire felt in many places to make the School House more convenient and attractive than formerly. They have, hitherto, in many cases, been unsightly, inconvenient and most incomplete in many essential details. An interior of four bare walls was, in numberless instances, considered sufficient to constitute a School House—a simple room destitute of any accommodation for the teacher—for the pupils' hats, caps or coats—for the books, maps or charts. In fact, in some schools none of the latter were ever to be found, and the teacher was left

to do his work literally without tools or appliances of any sort! Happily, this state of things is fast passing away; and Trustees are now generally not only anxious to be informed

of the best methods to be adopted and the most useful suggestion to be acted upon, but are most anxious to avail themselves of both.

In another part of the "Journal" we insert the result of the recent competition for original School House plans by trustees, teachers and inspectors in this Province. The competition, as will be seen, has been highly creditable to the parties concerned. (*See p. 16.*)

IMPORTANT PRELIMINARY CONSIDERATIONS IN ERECTING SCHOOL HOUSES.

In erecting School Houses, it should be borne in mind that the essential conditions to be observed in their construction are, that they should be convenient, adapted to the purpose to which they are put, and that they should afford abundant facilities for warmth, light, proper ventilation and shelter.



WELLS' GRAMMAR SCHOOL HOUSE, BOSTON.

We might class with these another scarcely less important, viz., durability. Hence the strength and stability of walls, the tightness of roof and outside covering, are matters of prime interest; and if neglected in the outset, no subsequent expenditure of skill or labour can provide a remedy.

To secure these results, attention should be specially paid to two things.

1. The *materials* used should be excellent in *quality*.

It is a false economy that consents, under any circumstances, to use inferior materials. There may be, in the beginning, a small saving of cost, but the result will be premature decay, and consequent expense for rebuilding. The greatest care should be taken to procure bricks properly burned, straight-grained timbers for frames, sound roof-boards and siding, floor-boards without knots, shingles of the first quality, and fresh-burned lime. These precautions can not be too strongly urged. A single stick of bad timber will sometimes ruin a whole building; and many a brick wall has fallen in consequence of using lime which has been too long exposed to the action of the air. The money annually expended in repairs occasioned by the use of poor materials, is more than triple that increase of the first cost, which would have entirely obviated the difficulty. *Every part of the materials should be carefully examined by competent judges, and all except the very best, rejected.*

2. The *work* should be well done.

Job-work, as it is usually termed (often another name for work miserably performed), can not be too earnestly deprecated. With the best of materials a careless or unskilful workman will construct a worthless building. Lumber of the best kind may be worse than wasted by a slovenly manner of framing and adjusting it. Shingles poorly laid will be followed by leaks, which must seriously damage the plaster and inside finish. Foundations insecurely built will rack and destroy every other part of the building. Window-frames imperfectly constructed, siding and floors loosely laid, and doors with yawning joints, all allow the entrance of the cold and storms, and thus become the source of unnecessary expenditure for fuel, as well as of serious injury to the entire structure. Lath and plaster badly put on, last but a short time, and constant patching presents an unsightly appearance, besides being the cause of annoyance and expense. Surely no further specification is needed to satisfy the most reluctant, that the truest economy demands such an expenditure for labour in the outset as shall secure the best possible construction. Faults in workmanship should be carefully provided against, and every part of the work should be subjected to the closest scrutiny. But workmen are not alone to blame for improper construction. It is quite as often the result of false economy or parsimony on the part of trustees. The estimates of mechanics are often cut down without an intelligent reason, upon the assumption that they are not made in good faith. In consequence, the workmen, who perhaps are forced by circumstances to undertake the job, are obliged to slight their work to save themselves from absolute loss. The injury resulting does not end with the work imperfectly done, but it has a direct tendency to impair that confidence in man which is the basis of all true humanity, and to lead to a regular system of deceptions on the part of both employer and workman. Let those having charge of the construction of buildings therefore beware of offering a premium for poor work by paying less than good work is worth. Let them remember that the "labourer is worthy of his hire," and that to extort labour for less than its value is only a safe and legal species of robbery.

In the erection of every School-house particular care should be taken to observe the rules of taste as regards form. In our country districts, where a small and plain building only is demanded, we need to consider proportion and symmetry alone; the other principles of architecture applying chiefly to larger and more pretending structures. If this is done, if our School-houses all conform to these two fundamental laws, they can not fail of becoming strong educational influences in the right direction. The advantages, in this regard, of obeying the principles of architecture in the construction of School-houses may be summed up in a few words.

1. If the building is an object of beauty, the very sight of it inspires emotions of pleasure.

2. It adorns and beautifies the landscape of which it forms a part.

3. It becomes an attractive place to children, and does not repel them, as now, by its deformity.

4. It practically teaches ideas of proportion and symmetry, and new and exalted conceptions of beauty of form.

5. It throws over property the shield of beauty, and so checks, and finally eradicates the rudeness which is stimulated to destructiveness by deformity.

6. It forms one of those influences which have most power over the heart and affections, directly aiding the teacher in the most difficult and important part of his work.

In adorning and decorating School-houses, however, care should be taken lest the cost exceed the means or inclination of those for whom it is built. Neither should any mere ornament interfere with health or comfort.

PRINCIPLES TO BE OBSERVED.

HEALTH.—The preservation of health should be considered a matter of prime importance in the erection of every School-house. Everything else, including cost, comfort, and convenience, should be subordinated to this. Unless our children can be educated in a way compatible with the preservation of their health, it were better at once to tear down our School-houses, and abolish our School system. Minds refined, however highly, in broken-down and sickly bodies, are of very little practical value in this world.

To accomplish the end so much to be desired in this regard, great care should be taken in the following particulars:

1. **THE SITUATION.**—This should be at a distance from all sources of malaria. The foul breath of decaying vegetation, or of stagnant water, becomes a fruitful source of disease and death. Unseen and unnoticed, it insidiously does its work, and spreads the atmosphere of the charnel-house as far as its influence extends. The diseases seeming to be epidemic, which sometimes break out in Schools, may often be traced to some neighbouring swamp or marsh, or heap of rotting vegetables. Some manufactures also generate disagreeable gasses, which, if breathed for any considerable time, are deleterious in the extreme. The School-house should be placed at a distance from all these sources of disease.

Again; it should be situated away from the noise and dust of the street. There is scarcely anything more annoying or unwholesome than the clouds of dust which, upon a dry summer's day, are driven along the highway, covering and clogging everything in their path. Let the location, if possible, be upon a hill-side, where it may be free from these annoyances, and where the purest air is poured out in unstinted measure.

2. **THE SIZE OF THE SCHOOL-ROOM.**—This is a consideration of great importance. Every pupil should have sufficient room to sit and move without being confined or jostled by any one else; and there should be sufficient space in the room for a large reservoir of air. Packing children close together, so that the breath and atmosphere of each is shared with all his neighbours, is an unmitigated evil. The rule laid down on this subject in the official regulations are as follows:—The vitality of the air is exhausted by breathing, and a constant supply of fresh air is necessary to preserve life and health. Air, absolutely pure, is essential to the highest degree of health. Rendered partially impure by breathing, it will sustain life, but then all the machinery of the body becomes clogged, and the brain is so enfeebled as to be unable to perform its functions. Every person contaminates, and renders unfit for use, at least five cubic feet of air per minute. A School-room, twenty by thirty feet in size, and ten feet high, would contain six thousand cubic feet of air. Forty scholars would consume this, and render it unfit for sustaining the bodily functions, in just thirty minutes. Yet a larger number are often confined in a smaller room, and during a much longer time, without any possibility of a change of air. The effect of this is to excite disease and impair the more delicate organs of the body. The most virulent poison could scarcely be more fatal. The only remedy is to provide means for the rapid and frequent change of the air in the room, throwing out that which is contaminated and impure, and replacing it with that which is fresh from without.

In every School-house without proper means of ventilation, there is a slow and subtle poison which enters the blood and brains of the pupils, and saps the very foundation of life. There can be no escape from its deleterious influences, for exposure to it is a violation of one of the laws of God.

3. **THE CONSTRUCTION OF SEATS AND BENCHES.**—For the health of the pupil, as well as for his comfort, the height of the seats ought to be so graduated as to enable him to set his feet squarely on the floor. A contrary custom often produces much suffering and a distortion of the lower limbs. Seats without backs are also to be deprecated. To relieve the overstrained muscles, unnatural postures are assumed, and a crooked spine is a very probable consequence.

4. **PROPER ATTENTION TO CLEANLINESS.**—As health can not be preserved without habits of personal neatness, so it is useless to inculcate these upon pupils while the dirty condition of the room they are obliged to occupy forbids the acquisition or preservation of those habits.

EXTERNAL ARRANGEMENTS.

1. **THE LOT.**—A large and commodious School lot is a matter of prime necessity. Without it, some of the most essential ends of education are impossible to be attained. A little attention, on the

part of trustees will secure an ample lot at very little expense. When public attention has been sufficiently turned to the importance of this subject, it will be a comparatively easy matter to secure the donation of a School lot, or, at least the purchase of one at a small price. About one acre of ground is necessary for our ordinary country Schools. If such a lot can be obtained, a School-house should never be erected upon a smaller one. It cannot be less than half an acre; but under our law an owner can be compelled to sell as large a lot as the trustees require.

If no natural obstacle oppose, the centre of the section would seem to be the best place for the School-house; this centre having reference, of course, to population as well as distance. If an acre of land is taken, perhaps it might most conveniently be laid out in a plot sixteen rods front and ten deep. Any other form might be adopted, and under some circumstances, another might be preferable.

2. POSITION OF THE BUILDING.—In a lot, sixteen rods by ten, the house should stand very nearly in the centre. This would be at a sufficient distance from the street to avoid all noise and dust, with room enough in the rear for the necessary out-buildings. It would also divide the yard into two parts, for boys and girls. In any lot the house should be placed in the middle as to width, and at a distance from the street. The front of the house should always face the street, so that the out-buildings may be thrown into the back-ground, not only in reference to the house, but to the street also.

3. OUTSIDE STRUCTURE.—In most cases, a double porch, with separate entrances for boys and girls, or two separate porches should be provided, and this arrangement is regarded as highly important. It prevents the possibility of improper communication between boys and girls, while passing in and out of the School-room. The room in or off the lobby should be used for a hat-room, at a manifest saving of expense.

4. WOOD-HOUSE.—The wood-house might be placed directly in the rear, so that a portion of it may serve for a back hall. This arrangement contributes to harmony of external appearance, and prevents the out-door air from blowing directly into the School-room. Thus serving a double purpose, the wood-house is almost indispensable. A basement, however, might be prepared for the storage of fuel.

5. PRIVIES.—With the yard divided by a high, substantial board fence running from the back side of the wood-house to the rear fence. On every School ground two privies are indispensable. A double privy is decidedly objectionable, for although so arranged as to shut out the intrusive gaze, it can not be made entirely impervious to sound; and the vicious may take advantage of its construction to outrage the feelings of the pure-minded, without the fear of detection. A better way would be to separate the privies entirely, and place them near the middle of their respective yards. The entrances should be upon the rear side, or else a screen should be erected to shield them from observation.

6. WALKS.—That is very false economy which refuses or neglects to furnish the necessary walks in and about the School premises. The country School-house is proverbial for filth. Generally but a step removed from the carriage-path in the street, and without walks of any description anywhere in the vicinity, except a single path of the native soil, the wonder is that it is not more, rather than less, offensive. During some seasons of the year the children must wade through mud and water to reach the School, and not one foot of dry space is provided where they can cleanse themselves until they enter the house itself. The consequence is, that dirt is everywhere, and tidiness impossible. To remedy this as much as possible, arrangements should be made to preclude the necessity of getting into the mud, within the School-yard, and to enable the scholars to remove it from their feet, when coming in from the road. A plank or gravel-walk should be laid from the front gate to the front door. The steps at the door should be large and commodious. These steps, and perhaps also a portion of the walk, should be provided with scrapers. A strip of band-iron, nailed upon the edge of a plank twelve feet long, so that the edge of the iron may rise half an inch above the surface of the plank, will make an excellent and economical scraper, and accommodate a dozen or more pupils at the same time. Plank walks should be extended from the back entrances to the privies, and perhaps around the sides of the School-house.

7. FENCE.—The School-lot can never be kept in order unless it is inclosed by a good and substantial fence; this fence should be built

of good materials, and put up in a solid manner. A picket, or a post-and-rail fence, would answer every purpose. The gates should be built strong and heavy, and so arranged as to shut of themselves. It might be well to set posts within the gates in such a manner that cattle could not get in, even if the gates should be left open. The fence that divides the yard should be of a matched stuff, and from eight to ten feet high, faced on the boys' side. The wood-house door should open into the boys' yard.

SCHOOL HOUSES FOR THE COUNTRY.

A small school may be well accommodated by a plan like that represented in Fig. 1. It consists of a school-room with a single porch in front, and a wood-house in the rear. The room represented contains seats for twenty-four pupils, but by increasing the length three feet there will be room for one more row of seats, and for thirty pupils, and by increasing its width four feet, it will contain still another row of desks, and seats for forty pupils.

The porch is a single room, but of sufficient size for a lobby for cloaks and hats. The stove is to be placed in one of the niches in front, while the other niche may be used for a library. The ventilators in this, as in all the designs, are placed in the rear of the room, but each one is connected with the chimney by a tube under the floor.

The wood-house in the rear serves the double purpose of back hall or entry-way, and a place of storage for fuel. The doors upon the sides should open respectively into the boys'



Fig. 1 a.

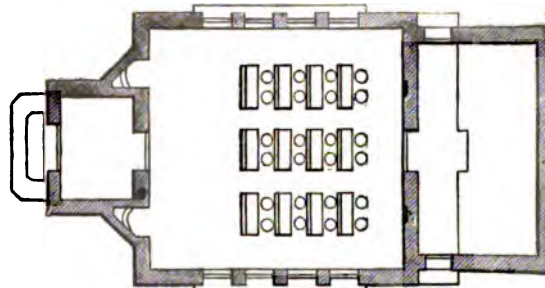
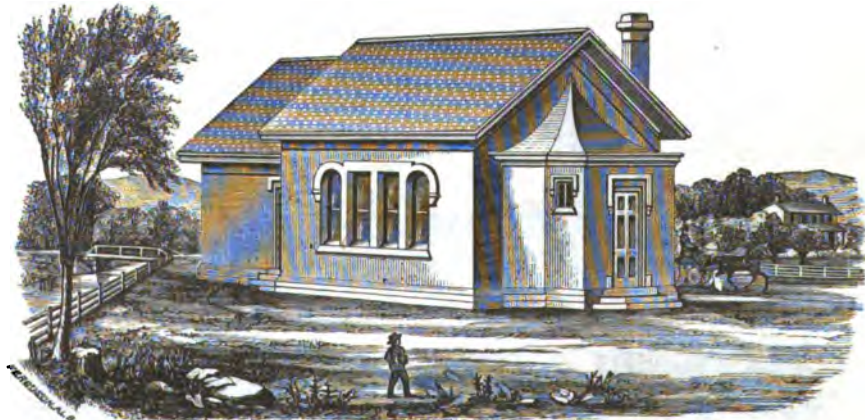


Fig. 1 b. Ground plan.

and girls' play-grounds. The front part of the wood-house should be provided with a platform upon a level with the school-house floor, at least four feet wide.

This general plan is superior, in having back as well as front entrances, so that access may be had to the play-grounds and out-buildings without disturbance to classes, or to the general order of the school-room. The movements of pupils are not so conspicuous as they would be if, in their entrance and exit, they were always obliged to pass through the front door.



Elevation 1.

ELEVATION No. 1.—This elevation is a simple and inexpensive building, with wide projecting eaves that give to it an appearance of comfort and solidity. The porch is finished with a tent-roof, to obviate the necessity of a gable under a gable. It is lighted by small windows in the sides, as the height of the roof would hardly admit of a head window over the door. The windows are grouped together, and the whole design produces a very pleasing effect.

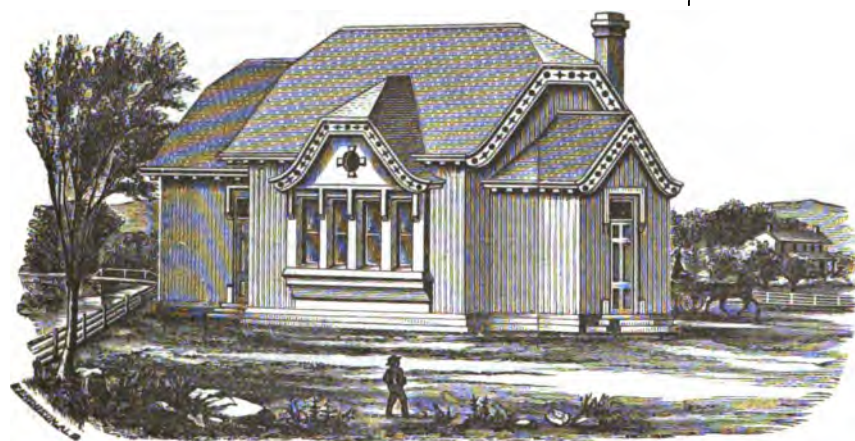
If a larger house is built upon this plan, the outside appearance

may remain the same by simply increasing all the parts in proportion. If three feet be added to the length no other change need be made, but if the addition is made to the width the porch should be enlarged in proportion.



Elevation 2.

ELEVATION No. 2.—In this elevation the roof of the main building is placed at right angles with the roof of the porch and of the



Elevation 3.

wood-house, giving a fine architectural effect to the group. The cornices of the three parts are upon the same level, and an ornamental cornice extends across the gable. This feature may be

omitted. In case the gable cornice is omitted the cornice of the porch and woodhouse should drop below that of the building. The porch is lighted by a headlight above the door. The materials of this building may be either brick or wood.

ELEVATION No. 3.—This elevation is ornamental. The corners of the gable are off, of which we do not at all approve, and a small gable is erected over each of the windows in the sides. The porch is finished with a common gable. The ornamental flag work of the gables may be omitted, and the cornice made wide and plain, like that of Elevation No. 1. The only extra cost of this elevation is raising the gables over the windows, and in cutting down the corners of the roof, the whole of which ought not to exceed a few dollars. This elevation is represented as finished with battens but clapboards may be used, or the house may be built of brick. The superior appearance of this design will more than warrant the additional expense.

ELEVATION No. 4.—In villages and country places near cities, where the dwellings are of fine architectural appearance, the school-house should be in harmony with the surroundings, and there is a demand for ornamental designs. Elevation No. 4 has been prepared to meet this demand when a small school-house is wanted. The general features are Gothic, but the whole is chaste and neat and not excessively expensive. The steep gables all terminate in minarets or pinnacles. An ornamental bell-tower surmounts the front. The porch has an ornamental tent-roof, sloping down from the front gable. Gables are erected above the side windows, and a beautiful ornamental chimney extends upward from one side of the porch. The material may be brick or stone, the finish of the gables being a stone coping instead of a cornice. This coping may be made of wood with a covering of tin. This elevation might also be used as a Sunday school room for a church, and for a variety of other public school purposes. The roof should be covered with slate.

In some parts of the country the small number of pupils in the district is given as an excuse for a miserable school-house. The fact of a limited number of pupils may be a sufficient reason for the construction of a small school-house, but not for a poor one. The educational wants of a small district and of a small number of children are just as pressing as though the territory and the number were indefinitely increased, and a neglect to supply them is just as detrimental in the one case as in the other. If the excuse were a good one, the Inspector would be justified in withholding the public funds on the same ground.

But, again, it is argued that the smaller districts are often too poor to erect a respectable appearing and comfortable school-house. It may be that many of the districts are very poor and in that case they are far too poor to subject their children to exposures and consequent disease, and so a good school-house becomes indispensable. Each district that partakes of the public money of the State is morally bound to provide all the appliances necessary for the proper expenditure of the money so obtained and the poorer the district the greater is the necessity for all possible means for moral and physical advancement.

HYGIENIC CONDITION OF SCHOOL HOUSES.

The Michigan Medical Society recently appointed a committee to investigate the hygienic condition of the Public Schools of the State. An examination of those of Detroit has already been made. A physician, thoroughly competent to judge, visited fourteen school-rooms, analyzed their atmosphere, and determined the temperature and the amount of moisture contained in it. In none of the Schools was there anything which deserves the name of ventilation, and no real attempt at it except in one instance. The air was everywhere so bad that a



Elevation 4.

human being should be forced to breathe it for six hours a day. Many of the children complained of headache, and there was a difference of from thirteen to nineteen degrees between the temperature of the floor and the upper parts of the rooms. The scholars' feet were cold while their heads were overheated. A similar examination might find defects in model school houses in other localities than Detroit.

II. Lord Dufferin on Education.

1. EDUCATION IN ONTARIO.

At the moment when two Ministers of State are giving an impulse to the cause of Education in England we receive a remarkable illustration of the interest already felt in that cause in one of our Colonies. The educational system of Canada has long been most favourably known in this country from official Reports, but its extent and variety are really surprising. The Governor-General, during his recent visit to Toronto, visited the principal educational institutions of the city, and his speeches on those occasions, as reported in the monthly *Journal of Education* for the Province of Ontario, are equally honourable to the Province and to himself. They are far too numerous for us to reproduce, but they prove very clearly that the office of a Governor-General is no sinecure when a man is expected in one visit to make fifteen speeches on a single subject. It is true they need not be long; but they must all be fresh and interesting, and no little tact is required to maintain a demeanour of impartial patronage towards the varying religious and national interests of a growing colony. Lord Dufferin, however, appears to have been in all respects equal to the call made upon him, and to have left pleasant reminiscences among all who received him. Lady Dufferin did not forget the Girls' Schools, and the visit is described as a real encouragement to all classes of teachers and students. It is remembered in Canada how much was done for the cause of Education by the countenance of Lord Elgin, and how largely he contributed to the popularity of the Canadian system abroad; and the people of Canada seem to look for a similar service from Lord Dufferin. There are, indeed, few statesmen who would be better disposed to appreciate the value of Education, and he is peculiarly able to encourage some of the elegancies of learning which a growing community is apt to neglect. Perhaps, indeed, the consciousness of this danger may partly account for the earnestness with which Education has been promoted by some of the ablest public men in Canada. In a country where constant energy is demanded for the daily work of life the importance of intelligence cannot be over-estimated, while at the same time the utmost zeal and attention are required in order to insure its cultivation. Men cannot afford to neglect a single opportunity, and yet the exigencies of a laborious life tempt them to disregard everything but what is practical. Education, however, has been rendered in Canada, even more than in America, the foundation of the national life, and the means of it have by the Public School system been brought within the reach of every one; while side by side with this public system, the various religious denominations appear to enjoy complete liberty to promote their peculiar principles of training.

Lord Dufferin began by a visit to the Education Department for Ontario, to which the task belongs of establishing the Normal and Model Schools for the training of teachers, framing the regulations for the management of the Public and High Schools, and selecting the textbooks and books for prizes and free libraries. It is described as their aim "to devise and develop a system of sound universal education on Christian principles, imbued with a spirit of affectionate loyalty for the Throne and attachment to the unity of the Empire," and they boast that in this task they have received the friendly co-operation of all religious persuasions, the Schools under the Department have increased to the number of 4,703, and the pupils in them to the number of 454,616; and the amount provided last year, almost entirely by voluntary local rates, for the support of the Schools the preceding year was about £465,360, showing an increase on the preceding year of £40,000. Lord Dufferin, in his reply to the address presented to him, observed that to one who, in Ireland, had been accustomed to live in the midst of religious contention, and where education is itself the battle-field upon which the conflicting denominations encounter each other with the greatest acrimony, it afforded the greatest pleasure to meet the representatives of many different religious communions, all co-operating heartily in the same work. The University of Toronto is located in a handsome Gothic building, designed by a colonial architect. He met there a body of Professors fully competent to uphold the interests of that which he described as "the backbone of a liberal education—the arts and the Greek and Roman classics," while he also observed that within

the walls of the University a greater number of subjects is taught and a more practical direction is given to the education and to the studies of the students than in any University with which he had been previously acquainted. He found, moreover, athletic sports as popular in the Colonial University as they are in the Universities of England. Trinity College contains an institution for the training of young men in the special principles of the Church of England, and for maintaining a supply of ministers to extend her influence. Upper Canada College affords a successful attempt to reproduce the system of an English Public School, and it is amusing at the present time to find the Governor-General discussing in Toronto the advantages and dangers of the monitorial system. The City Public Schools show a daily average of 5,000 children, taught at an annual expense of £9,000, the whole of which, with the exception of £600, is provided by an assessment on the ratepayers. The instruction given in these Schools is described as free from all sectarian character, and to this feature in the system the School Board attributes the great success which has attended their efforts in the cause of public education. In Bishop Strachan's School he found, to his pleasure "as a member of the Episcopal Communion, a flourishing institution where the principles in which he believed were inculcated from earliest youth." He further visited the Roman Catholic institutions of St. Michael's College and St. Joseph's Home, where it was fortunately discovered that his family motto—"Per vias rectas"—is conspicuous on one of the antiphons of the Church. His connexion with the Church of England seems in no way to have lessened the warmth of his reception, and here also he took occasion to express the pleasure with which he observed the harmony and liberality of sentiment which all the religious denominations of Canada maintain towards each other, and the common feeling of loyalty by which they are bound to the Throne. The Irish members of these institutions displayed unreserved attachment to the Crown, and Lord Dufferin expressed his perfect conviction that "among no section of the inhabitants of the Dominion had Her Majesty more faithful, more useful, and more loyal subjects than among those who had the honour of claiming an Irish descent." A deputation from the Sabbath School Association of Canada and a visit to a Sunday-school in Toronto completed this comprehensive survey of the educational institutions of the city.

In this slight sketch we cannot do justice to the exuberance of oratorical, poetical, and musical fervour which accompanied the Governor-General in his progress through the Schools and Colleges of Toronto. But such a list of flourishing institutions for the promotion of education does great honour to the enterprise and intelligence of the colonists, and it is worthy of especial observation how little they are hampered by the difficulties which seem so insuperable among ourselves. The Religious and the Race Difficulties appear to have both been satisfactorily surmounted; Catholics and Protestants work well together, and the Irish population is thoroughly loyal. Lord Dufferin could not but observe that it seemed to him disgraceful, in the fact of such an example, that "in the great contention which we are waging with ignorance, and consequently with crime, the various religious denominations of Europe should not yet have learnt to put aside their jealousies and combine in so Catholic a cause." The truth probably is that in Canada they have no time to spare for such quarrels, and, having few idle hands, they cannot get to mischief. It is because, with the lessened keenness of our struggle for life, we have gained also a less keen sense of the urgent practical necessity of education that we waste our energy on denominational squabbles, and we may be sure that is the paramount necessity of mental cultivation becomes better recognized among us our so-called religious difficulties will gradually disappear.—*From the London Times.*

2. LORD DUFFERIN ON POLITE EDUCATION.

His Excellency the Governor General and Countess Dufferin visited the McGill Normal School in Montreal lately, and was presented with an address of welcome. Lord Dufferin replied as follows:—"I can assure you it gives me the greatest pleasure to have had an opportunity of paying you this visit, and of showing you by my presence here to-day not only what an interest I take in the general subject of education, but how much importance I attach to those particular functions which you will be shortly called upon to perform. In fact it would be almost impossible to exaggerate the responsibility which rests upon you, because, after all, it is upon you, upon the teachers who are spread abroad in every village and district from one end of the country to the other, that must depend the due education of the great mass of the people. I am happy to think from what I have seen in Toronto, and what I now see here, that every precaution has been taken and every means has been furnished which man's ingenuity can contrive to fit you for the successful performance of your important task. It is indeed a

matter of equal satisfaction to us all, that a number of young men and women whose intelligence is printed on every movement of their countenance should year after year be sent forth from each of their parent establishments, spreading abroad in all directions sound teaching and everything that is necessary to develop the intellectual vigour and activity of the country. I do not know that there is any practical suggestion which it would be incumbent upon me on the present occasion to make to you, and yet there is one observation which I am almost compelled to submit, and that is I would venture to remind you that in your future relations with your young pupils you will be careful to remember that your functions must not be confined merely to the development of their intelligence and the imparting of information, but that there is also another duty as important as either of these, and that is that you should endeavour to refine, discipline, and elevate their general behaviour, rendering them polite, well-bred, deferential, respectful to their parents, to their elders and their superiors. Perhaps in a new country, where on every side we are surrounded by the evidence of prosperity, where a spirit of independence is an essential element of success, where at a very early age young persons are called upon to fight their own battle and to undertake their own responsibilities, it is very natural that there should be developed an exuberant spirit of self confidence. Now what I would venture to ask you from time to time to impress upon your pupils is this, that although upon the one hand there is no quality more creditable than self-respect, yet on the other hand the very idea of self-respect excludes self-assertion, and I say it the more readily because I confess if there is any criticism which I have to pass upon the youth of this new country—I do not say of Canada especially, but of the continent of America—it is that I have been struck by the absence of the deference and respect for those who are older than themselves, to which we still cling in Europe. Now, to use a casual illustration: I have observed in travelling on board the steamboats on the St. Lawrence, children running about from one end of the vessel to the other, whom more than once I have been tempted to take up and give a good whipping. I have seen them thrust aside two gentlemen in conversation, trample on ladies' dresses, shoulder their way about, without a thought of the inconvenience they were occasioning, and what was more remarkable, these little thoughtless indiscretions did not seem to attract the attention of their parents. When I ventured to make an observation on this to the people with whom I have been travelling, I was always told that these little pleasing individuals came from the other side of the line. Well, I only hope that this may be so; at all events, without inquiring too strictly how that may be, I trust that the teachers of the schools of Canada will do their very best to inculcate into their pupils the duties of politeness, of refined behaviour, of respect for the old and of the reverence for their parents, that they will remember that a great deal may be done by kindly and wholesome advice in this particular, and that if they only take a little trouble they will contribute greatly to render Canada, not one of the best educated, most prosperous, most successful and richest, but one of the most polite, of the best bred, and well mannered countries of the American continent."

3. LORD DUFFERIN ON YOUNG LADIES' EDUCATION.

Lord and Lady Dufferin visited the Ottawa Young Ladies' College on Monday, Dec. 16th, where he was met by a number of those most interested in managing the establishment. During his visit he entered freely into conversation with the Rev. Mr. Moore, of the Presbyterian Church, which the Ottawa *Free Press* reports. Among other things the following is reported:—

"Lord Dufferin—It is a mixed institution, of French and English.

"Rev. Mr. Moore—No; we have no French.

"Lord Dufferin—I suppose it is something on the same principle as the schools conducted by the Nuns. How many have you on the roll at present?

"Rev. Mr. Moore—About 200 on the rolls at present. We have fifty-two boarders.

"Lord Dufferin—I didn't know that it was such a young Institution.

"Rev. Mr. Moore—We teach Latin, French and German. We have no Italian.

"His Excellency—Do you teach Latin?

"Rev. Mr. Moore—We do.

"His Excellency (after a pause)—Do you teach cooking? (Laughter.)

"Rev. Mr. Moore—It is our intention to do so."

There is a moral in this last question, which it would be well for educationalists to take home and consider. His Lordship did not stop at the mere question, but added, in his reply to an address which was presented to him, that—"it gives me great pleasure,

however, in looking over the programme, that the science of cooking has not been overlooked. In a new country like this there could be no doubt but that the subject of domestic economy was one of very great importance, particularly they should, the young ladies, study how to make their future husbands comfortable."

We believe there are few who will not echo the practical lesson here given by the Governor-General.—*Belleville Intelligencer*.

III. Papers on Educational Progress.

1. SUCCESSFUL SCHOOL TRUSTEE MEETINGS.

An energetic Inspector gives the following interesting account of School Meetings which he recently held:—"Since the annual School Meetings have been held I have convened meetings of the various Boards of Trustees in each Township in this County, for the purpose of receiving the annual reports, and correcting any mistakes that might be in them, so that my reports to your department might be reliable. Their meetings have been very successful and I trust that their efforts will prove beneficial. A number of topics for discussion were brought forward, and a great deal of interest manifested in them. The subjects discussed were the advantages of providing 'weekly reports' so as to bring parents and teachers into more direct communication with one another, of 'general registers' so that the general management of the Schools can be readily seen, of 'adequate School accommodation' including play grounds, fences &c., &c., so that our Public Schools shall be more attractive to the young, of 'suitable libraries' especially reference books, and of the employment of none but thoroughly competent 'Teachers,' who are the best and cheapest in the end.

"Several Boards of Trustees requested me to enquire if the 100% will be granted to Trustee Boards who wish to provide 'Worcester's Unabridged Dictionary,' 'The Pronouncing Gazetteer of the World,' and some work of reference on the structure of the English Language, say 'Fowler's Grammar unabridged,' or 'Angus' Handbook of the English Language.' I have recommended these books to be placed in every Public School in this County for the benefit of pupils and teachers. The subject of Township Boards of Trustees was also discussed at several of these meetings, and I believe that the public opinion of this County is going in favour of them."

2. COUNTY OF HURON AND TOWNSHIP BOARDS.

At the recent meeting of the Huron County Council at Goderich, the following resolutions were passed on the recommendation of the Education Committee of the Council:—

1st. That Township Boards of School Trustees be made compulsory, instead of permissive, as at present.

2nd. That in the event of Townships being divided into Wards, one Trustee be elected in each Ward, that the Chairman of such Board be elected by the whole Township, and that the nomination and the election be held at the same time and place as that of Councillors.

3rd. That the property qualifications required for a Trustee be the same as that at present required for Councillors.

4th. That the law be so formed that Township Councils interested in Union Sections, shall be compelled to raise an equivalent sum according to equalized assessment in each part of such Union Section, for all school purposes, including the erection of school-houses.

5th. That in Union School Sections, the management of such schools shall be controlled by the Trustee Board of that Township in which the school is situated.

6th. That the Warden and Clerk petition the Ontario Legislature at as early a day as possible, in accordance with the foregoing recommendations.

3. PREPARATORY CLASSES IN HIGH SCHOOLS CONDEMNED.

The Public School Board at Ottawa has petitioned the Government as follows:—

The Public Schools so denominated—as contra-distinguished from High Schools and Collegiate Institutes—are legally governed and administered by Boards of Trustees elected by the people in the same manner, and by the same machinery as the Municipal Councils, and are thereby amenable to the judgment of their constituents, the ratepayers who support the said schools, who, if dissatisfied with their management, can at stated periods relieve them of

their offices and elect in their places, persons in whom they have confidence. But the Board who control the High Schools and Collegiate Institutes are nominated and appointed by the Municipal Councils and forthwith become possessed of large powers which they may exercise without let or hindrance. They become in fact independent Boards and may and do demand from the Councils subsidies which must be granted to them although entirely out of proportion with the works they perform. Not satisfied with this arbitrary exercise of power some of them transcend the obvious intentions of the law by establishing in connexion with their Institutions, classes where the first rudiments of education are taught to the children of parents, who from an assumed social superiority prefer paying or promising to pay a portion of the cost of sustaining such classes, and in this way the Public Schools, however well officered, amply provided for and managed, as are those of this city, suffer disparagement and prejudice. The remedy for these palpable evils appears to your petitioners to be easy of attainment—in the cities at least, if not every where—and as they believe would be found in making the management of the High Schools immediately and directly dependent in common with the Public Schools upon the approval of the people at the polls. For this purpose a general Public School Board having the supervision and government of all classes of schools, from the collegiate institutes downwards, might be elected in the same way as the Public School Trustees are now called into and kept in existence, and there can hardly exist any doubt that the people would through such a Board, make full and sufficient provision for giving an absolutely free education to all classes alike.

4. THE GALT SCHOOLS.

The Very Rev. Déan Boomer, in replying to a complimentary address and presentation on his leaving Galt, thus referred to its schools:—I was with Galt in what may be called its school days, and when as regards education and its privileges it was only in its alphabet. I need scarcely say to those acquainted with its history, that this was the department in your public weal which ever attracted my sympathy and support. And I am truly thankful, my friends that I have been permitted to witness such an advancement in this respect, that with your noble Central School and still nobler Collegiate Institute, there are few towns in Canada which possess your educational advantages. I need not, my friends, detain you in this rather lengthened response, by any reference to your prosperity in a material point of view which has been equally great and which has been owing, I must say, to the industry, energy, and moral character of your people.

5. POPULAR EDUCATION IN EUROPE.

The educational systems of several of the countries of Europe have been discussed in the JOURNAL, and other articles will be given in future numbers. However, an Italian journal, *L' Eco d' Italia*, contains some interesting reports regarding the educational condition of different European nations.

In Saxony education is compulsory. All the inhabitants of the kingdom can read and write, and every child attends school.

In Switzerland all can read and write, and have a good primary education. Education is obligatory, and greater efforts, in proportion to the means at the disposal of the government, are here made to impart primary instruction than anywhere else in Europe.

In all the smaller States of North Germany education is compulsory, and all the children attend school.

In Denmark the same is true. All the Danes, with but few exceptions, can read and write and keep accounts. The children all attend school until the age of fourteen.

In Prussia almost all the children attend school regularly, except in some of the eastern districts. An officer who had charge of the military education of the Landwehr, in twelve years met with only three young soldiers who could neither read nor write. An enquiry having been instituted, it was found that these three were the children of sailors; and, having been born on the river, had never been settled in any place. Instruction is obligatory.

6. COMPULSORY EDUCATION IN EUROPE.

In Sweden the proportion of inhabitants who can neither read nor write is one in a thousand. Education is obligatory.

In Baden every child receives instruction; and in Wurtemberg there is not a peasant, nor a girl of the lowest class, nor a servant in an inn, who cannot read, write, and account correctly. Every child goes to school, instruction being obligatory.

In Holland public assistance is taken away from every indigent

family that neglects to send its children to school. It is estimated that the number of illiterates is three per cent.

In Norway almost all the native population can read, write, and account passably well. Instruction is obligatory.

In Bavaria, among one hundred conscripts, only seven whose education was incomplete or entirely wanting were found. Here also instruction is obligatory.

France, with its twenty-three illiterate conscripts in a hundred, occupies the twelfth class. It is followed by Belgium, Italy, Austria, Greece, Portugal, Moldo-Wallachia, Russia, and Turkey, in the order named. In Italy, however, the conditions vary much according to the province.

7. HOW PRUSSIA DOES IT.

One of the most brilliant and memorable of parliamentary debates took place in the Prussian House of Lords, in the month of March, upon the new school law. So much interest was manifested that one of the oldest members declared that he could not remember ever to have seen so large an attendance of peers, some of whom had scarcely appeared in the house for twenty years.

The school law, as then presented for discussion, provided that the supervision of the schools, which had so long been considered a prerogative of the Church, should belong to the State alone; that the office of inspectors of schools, formerly held by the parish clergy *ex officio*, should hereafter be filled by appointees of the State. In other words, that it should become a civil and not an ecclesiastical office; and for this change an appropriation was called for to pay the new school inspectors. The debate upon the question was characterised by great ability and great forensic power on both sides. The clergy and conservatives pressed forward their ablest men.

Bismarck, the great leader of the reform, was the recipient of many sharp hits; but when he at last rose to reply, every one listened and every eye was turned upon him. With no attempt at oratory, with little if any gesticulation, he spoke, as is his custom, rapidly, nervously, sometimes hesitatingly; but his apparent nervousness is the result of an exuberance of electrical vitality, and his hesitation is that he may weigh the words that not only the Assembly, but Europe and the nationalities of the world may hear and ponder. With an energy of will that brooks no opposition, he held the opponents at bay for two days, and at the close of the debate the bill passed by one hundred and twenty-five ayes to seventy-six noes.

Germany thus stands at the head of progress in educational freedom among the countries governed by clerical influence. In this, as in other movements, Bismarck evinced a far-reaching, far-seeing sagacity and wisdom that grasps the possibilities and the foreshadowing of events during the present. Seeing, almost prophetically, the tendency of events, he solves the problems of the future without waiting for the future to evolve them. For him, to will is to do; to wish is to consummate and carry out what he desires. Thus far he has placed himself in the foremost rank of statesmen, warriors, and scholars, and with characteristic Teutonic calmness wraps his drapery around him not to sit down to quiet dreams, but to ponder, and to watch the next role he and the world are to play together in the world's progress.—*University Monthly*.

8. EDUCATION AND THE LATE FRENCH WAR.

In a recent lecture Rev. Henry Ward Beecher remarked that in the late European war ninety-eight per cent. of the Prussian soldiers could read and write, while only forty-eight per cent. of the French had the like knowledge. "Of course they (the French) went down," the lecturer adds. This hasty sort of reasoning has become very common lately, but it is hardly to be relied upon. Did the needle-gun, the excellence of the German officers, and the genius of Von Moltke have nothing to do with the defeat of the French? Suppose that the German army, with all its superiority of numbers, generalship, and equipment, had nevertheless been composed of private soldiers who could neither read nor write, does any one really suppose that in such case McMahon would not have marched to Sedan, or that Bazaine would not have shut himself up in Metz? Most military men will be of the opinion that the literary accomplishments of the Prussian rank and file were of less value than the condition of their shoes and the quality of their ammunition.

The attachment of Lord Hatherley to Sunday schools is well known; but it is not equally well known that his successor, Lord Selborne, has for many years engaged himself in the work of teaching. In Lord Hatherley's recent address upon Sunday schools at Leeds, he "strongly urged the gentry to bear a considerable pro-

portion of the work connected with them." With two such examples, a hope may not unreasonably be cherished that his Lordship's may be acted upon; and perhaps no better testimony to the value of Sunday school teaching could be given than that two such eminent lawyers as Lord Hatherley and Lord Selborne have been for years in the habit of personally devoting their time to it.

9. EDUCATION IN DENMARK.

The new Education Bill introduced into the Danish Chamber by M. Hall, the Minister of Worship and Instruction, though not in advance of public opinion in Denmark, is evidently of a very thorough-going character. Compulsory education at the expense of the State has existed in Denmark since the beginning of the century, but the compulsion put in exercise has not been found adequate for the purpose. According to the new bill, children of both sexes are to be under strict obligation to attend school until their fifteenth year is completed, after which it is assumed they will be ready for secondary instruction. Those children who go on to the latter will be taught in separate schools, especially created for the purpose. The demands by any six pupils above the age of fifteen—either boys or girls—for higher instruction than the elementary schools can provide will impose the duty of establishing in any commune a superior school for their use. The course of study, which now extends to six years and a half is raised to seven and a half. Compulsion is exercised by means of fines inflicted on neglectful parents, the amount of which is to be increased. The money to be obtained in this way is to be distributed among the families of the poor who shall have exhibited most zeal in the instruction of their children. The most effective supervision of the schools is provided for by the appointment of eight general inspectors entrusted with the duty of seeing to the strict observance of the rules and regulations laid down.

10. HIGHER EDUCATION FOR GIRLS.

We have seen the efforts made to bring into greater prominence the desirability of higher female education but less has been said of the arguments against attempts to achieve too much in this direction. The *N. Y. Albion* speaks of forcing processes which are a mistake in the majority of instances, and the inutility of expecting that boys and girls are to attain to a similar educational condition. We fancy that excessive toil at girls' schools is not so much in vogue as formerly. Still the point is well taken. The *Albion* says, after noting certain instances of distinguished French scholarships:

With the examples before them of what their sex can do, it is not improbable that the next generation may even contest supremacy with men on these grounds, as Elizabeth Carter did with classical scholars in her day, and Caroline Herschell with astronomers of the present age. This possibility their opponents do not deny. They simply assert that this result is gained at too great a cost, and that the essential character of womanhood is too much changed by these strenuous efforts to enable woman to fulfil her duties in life properly. Few out of those who attain distinction at their school would be able to keep up their studies in their after life, and they only at the price of great exertions. Married life must be nominal; no family can be attended to, the cares of maternity are absorbing, and the conducting a household takes many hours a day. Men could not succeed if so weighted down; neither can women, with less physical power. That education is the best that leads to the improvement of the actual condition of him or her who receives it, and any instruction which is not fitted to the nature of the pupil is thrown away. Of what avail is it for a girl whose life will be passed in domestic cares to study Greek or Latin? Her school hours can only teach her the rudiments of this knowledge; the filling in, the continued pursuit of the literature of those nations, can only be done with leisure and means. An education takes money, as well as time.

The question now arises, whether our schools here answer the purpose for which they are designed? Is the result as good as should be expected? We are afraid most impartial persons, whether friends of high education for women, or opponents, will say that these institutions which go beyond the range of the public schools do not answer. Our female seminaries, colleges, and high schools tend too much to cramming. No one has sufficient ability to pursue all the studies laid down for feeble girls, and the very assiduity with which these young pupils apply themselves to their books prevents them from equalling their brothers. Boys are enabled to study hard by having sufficient play and exercise. Their lessons are notoriously not so well prepared as those of the other sex; their attainments, judged by the book standard, are less at the age of nineteen than those of the young ladies. But with the latter it then ends. The teaching of six or seven years is compressed for girls in three; and

they pass their examinations well. It is then only that the great divergence begins. At twenty or twenty-two the daughter is married; her books must be dismissed then. Her health has been seriously impaired. Her brother, who at nineteen knew less than she, at twenty-two surpasses her; at twenty-eight there is no comparison. Boys' schools do not allow such cramming as those of girls do; healthy exercise, and the postponement of urgent work for four or five years longer than their sisters can, does the rest. The girls have too many studies. The practice of the piano alone absorbs a large portion of the day, bringing considerable physical exhaustion with it; what are commonly known as accomplishments, such as drawing and painting, take up much more, and the remainder of the day is occupied in grappling with all manner of things. Most of these seminaries give for a graduating course, among other things, instruction in four languages, but it would be entirely safe in saying that neither of them become useful. The pupil is never able to converse or translate easily in either of them, in a year has lost even what little skill she did have, and in ten years retains scarcely a single word of either. In the case of the boy, however, he has leisure enough for the first few years to keep up his knowledge, and his whole subsequent life enables him occasionally to find this instruction of value, even though he may not have increased it, or it may have diminished. If young women could attend school until twenty-one, and then have three years of post graduate leisure, there can be no doubt that the productive result would be far greater. The hot-house plant now withers and dies.

IV. Papers on Practical Science.

1. NECESSITY FOR EDUCATION IN PRACTICAL SCIENCE.

At a meeting of the Machinists and Blacksmiths' Convention, held in Albany, in September, a resolution was adopted, deploring the general deficiency of mechanics and a knowledge of the theory and higher branches of their trades, and recommending that some means be taken for affording opportunities for elevation in this respect.

The machinist would be none the worse if he had more of an acquaintance with Euclid, and less with lager beer; or the blacksmith, if he knew how to drive home and clench an argument in metaphysics as skillfully as a horse-shoe nail; or the dentist, if he could extract hidden Greek roots with the same facility as grumbling molars. A man who wants to run an engine ought to be educated for his business, just as much as a lawyer for his profession. We are a patient and long-suffering people, or we would never permit ourselves to be blown up by hundreds by ignorant engineers, who know nothing more of the monsters which they control than enough to feed them with wood and water, and oil up their creaking joints; or suffer ourselves to be sent to our graves by stripplings in short jackets, who give us arsenic for paregoric, and strychnine for the elixir of life.

The time is coming, and we trust is not far distant, when all positions of responsibility will be filled by men of education, and can be filled by none others; when ignoramuses will be obliged either to fit themselves for their proposed labours, or seek other employments.—*N. Y. State Educational Journal*.

2. PRACTICAL SCIENCE—REGRETS OF HORACE GREELEY.

In expressing his regrets that he had not been taught any of the elements of practical science in his youth, Mr. Greeley in an address in Pennsylvania, said:—"I have travelled all over this earth, from the Adriatic Sea on the east to the Pacific Ocean on the west, and every day I have deplored the want of knowledge of chemistry and geology as I walk dumb and blind amid the wonderful works of God's creation across the plains, which spoke with God's eloquence, which my limited education prevented me from enjoying. I had no other time for schooling than in the winters of the first ten years of my youth. I never saw during that time a book on chemistry or geology—never knew that such books existed—and I feel now that my life would have been more useful and more enjoyable if I had time and the chance to study them."

3. THE RELATION TO ELEMENTARY, OF SCIENTIFIC TEACHING.

The two fundamental principles on which the science of teaching rests are: first, the mind is developed by a right exertion of its own power; second, the kind of action excited and knowledge obtained is determined by the occasions presented.

The modes of mental action are these : first, the activity of the *intellect*; second, that of the *sensibility*; third, that of the *will*.

The intellect has three ways of activity :

1st. It has a *perceiving* power.

2nd. It has a *representative* power.

3rd. It has a *reflective* power.

By the first the intellect acquires a knowledge of facts concerning individual things ; by the second this knowledge is preserved ; by the third it is elaborated and extended to classes and to general truths.

The relation which elementary holds to scientific teaching is that one occasions the other. Therefore, the elementary teacher must keep constantly in mind that he is to excite the minds of his pupils to activity by presenting right occasions for it; and that the pupils must observe *all the phenomena* necessary to a knowledge of individual objects of thought. Then the learner will have occasions for a knowledge of classes and of the laws in accordance with which all things have been made to conform to a plan.

From a study of things the mind must be led by the teacher to a study of itself. It must be trained so that it can perform skilfully all the practical work of this life, and in such a manner that a preparation will be made for the life to come. Such teaching requires the most thoroughly trained teachers in our primary schools. We need teachers who can look up through all the grades of teaching above them and know the relations the elementary ideas they are now exciting hold to that scientific knowledge that depends upon them. They must know, also, how to lead the mind back of the *material world*, and of the laws which determine its modes of existence, and of the *mind* that can be conscious of them, to the mind of Him who is the *source of all Truth*.—*J. W. Dickenson, in N. Y. State Education Journal.*

4. UNDERGROUND TELEGRAPH WIRES.

Prof. Benjamin Silliman, of New Haven, in a letter respecting laying telegraph wires underground in cities, points out some of the difficulties which interfered with early efforts in this direction. It appears that gutta-percha covering will not answer for the insulation where it is exposed to the action of moist earth and vegetable processes. An element to be carefully considered in carrying out a general plan for underground telegraphs in cities is the facility that must be given for relaying in case of accident or of excavations in the streets for constructive purposes. If, however, the wire is once properly laid under ground in insulating material proof against natural agencies of destruction, the "electrical leakage" is very small; so much smaller than is possible with wires in air as to be a great saving to the telegraph company. Prof. Silliman thinks that a large measure of uncertainty and inconvenience in the operation of the telegraph will be permanently removed by the underground plan in cities, which he deems entirely practical.

V. Papers on Practical Education.

1. HOME GEOGRAPHY.

A child should begin the study of geography long before he goes to school. As soon as he begins to talk, he may begin to lay foundations for this branch of science. He should be taught the points of the compass, East, West, North, and South. He should be able to tell on which side of the room the fire is—the front door—the table—the stairway,—and in which direction are the spring or well, the garden, the barn, the orchard, &c., and his young eyes should be trained to see just how the land lies and looks, close around his home. This is primary geography, pleasant and practical.

By this means the child becomes an enquirer and a learner. He begins to see the real nature of things. Such instruction is solid and more eagerly sought and readily remembered, than any book lessons, however prettily pictured. He understands these familiar, tangible objects, and recollects what he is told. These home sights and home objects have a meaning to his mind, such as never can be conveyed by the abstract theories of the books. Nothing should be taught from books, unless it is absolutely impossible to use any better means. Children's eyes are too much confined to shadows on the dull paper pages, while the realities, all glittering with beauty, are inviting study on every side—on the clouds, the sky, the fields, the woods, the water, all around and every where.

Instead of waiting to task your child in the text-book of the school, you must talk him along and walk him along in the pleasant paths of practical truths about home, and the vicinity of home, until he has positive knowledge of the roads, the fields, the farms,

the houses, the streams, the hills, the woods, and all the distances in the circle of the neighbourhood. This is the geography to teach. These are the beginnings that will widen out as a child grows older, until his knowledge of the state, the country, and the world, shall be thorough and well adjusted.

If geography is, technically, a description of the earth, then let the child define the common things that first meet his eye, and make real geography out of them. How far pleasanter to describe what he sees in Nature around, than to commit and recite the dull, hard descriptions of the books!—*Schoolday Visitor.*

2. SLATES TO BE ABOLISHED.

A general war is being waged against the use of slates in the schools of Germany. There is scarcely any sound more offensive to the human ear than the grating of the pencil on the slate, and when this is multiplied by numbers in the school, the effect is said to be extremely injurious to the nerves of many children, and leave evil influences for life. In addition to this, the use of slates is attended with many other disadvantages. Children acquire a heavy hand by their use, and accustom themselves to a vicious holding of the pen. Physicians say that the sight is injured by it. The slate is heavy and easily broken, and is a noisy implement in the school-room, besides being quite inconvenient to carry with books. In short, the slate ought to be abolished entirely, is the verdict. But it is a necessary evil, without a substitute. Many ingenious minds have been seeking for years for a satisfactory remedy, and at last a practical teacher thinks he has found it. A Mr. Wagner comes forth with a sort of pasteboard that presents all the convenience of the slate, with the advantages of writing on paper. Pen and ink are used, as on ordinary paper, but the writing can easily be effaced, and the same board or card used an indefinite number of times. The Saxon Board of Instruction have granted Mr. Wagner a patent for his invention.

3. BISHOP MAGEE ON "CRAMMING."

In distributing the prizes at King's School, Peterborough, on Wednesday, the Bishop of Peterborough referred to the danger in public schools of teaching too many subjects, and so turning out sharp clever prigs, whose minds were like kaleidoscopes, filled at the ends with small bits of coloured glass of all shapes and colours, but of little use. Competitive examinations for the public service defeated, in a great measure, the objects of their promoters, which was to place the rich and poor on an equality, because success was made to depend very largely on successful cramming, which meant a high-priced crammer. Competitive examination was a hobby which the British public had ridden very hard, and if the pace were continued much longer both the public and the hobby would come to grief together.

VI. Miscellaneous.

1. ANNIE AND WILLIE'S PRAYER.

[The following poem written by Mrs. Sophia P. Snow, is exquisitely touching and beautiful. It cannot fail to reach the hearts of all who peruse it, besides being peculiarly appropriate to the holidays.]

'Twas the eve before Christmas : "Good night" had been said,
And Annie and Willie had crept into bed ;
There were tears on their pillows, and tears in their eyes,
And each little bosom was heavy with sighs—
For to-night their stern father's command had been given,
That they should retire precisely at seven,
Instead of eight : for they troubled him more
With questions unheard of than ever before :
He had told them he thought this delusion a sin,
No such being as "Santa Claus" ever had been,
And he hoped, that after this, he should never more hear
How he scrambled down chimneys with presents each year.
And this was the reason that two little heads
So restlessly tossed on their soft, downy beds.
Eight, nine, and the clock on the steeple tolled ten ;
Not a word had been spoken by either till then,
When Willie's sad face from the blanket did peep,
And whispered, "Dear Annie, is you fast asleep ?"
"Why no, brother Willie," a sweet voice replied,
"I've tried it in vain, but I can't shut my eyes,
For, somehow, it makes me so sorry because,
Dear papa has said there is no 'Santa Claus ;'
Now we know there is, and it can't be denied,
For he came every year before mamma died :

But then, I've been thinking that she used to pray,
 And God would hear everything mamma would say,
 And perhaps she asked him to send Santa Claus here,
 With the sacks full of presents he brought every year."
 "Well, why can't we pray just as mamma did then,
 And ask Him to send him with presents aden?"
 "I've been thinking so too." And without a word more,
 Four little bare feet bounded out on the floor,
 And four little knees the soft carpet pressed,
 And two tiny hands were clasped close to each breast,
 "Now, Willie, you know we must firmly believe
 That the presents we ask for we're sure to receive;
 You must wait just as still till I say the 'Amen.'
 And by that you will know that your turn has come then,"
 "Dear Jesus, look down on my brother and me,
 And grant us the favour we're asking of Thee;
 I want a wax dolly, a tea-set and ring,
 And an ebony work-box that shuts with a spring;
 Bless papa, dear Jesus, and cause him to see
 That Santa Claus loves us far better than he,
 Don't let him get fretful and angry again
 At dear brother Willie and Annie, Amen!"
 "Please, Desus, 'et Santa Taus tum down to-night,
 And bring us some presents before it is 'light,
 I want he should dave me a nice 'little sed,
 With bright shiny runners and all painted yed:
 A box full of tany, a book and a toy,
 Amen, and den Desus, I'll be a dood boy!"
 Their prayers being ended, they raised up their heads,
 And with hearts light and cheerful again sought their beds;
 They were soon lost in slumber, both peaceful and deep,
 And with fairies in Dreamland were roaming in sleep,
 Eight, nine, and the little French clock had struck ten,
 Ere the father had thought of his children again,
 He seems now to hear Annie's half-suppressed sighs,
 And to see the big tears stand in Willie's blue eyes.
 "I was harsh with my darlings," he mentally said.
 "And should not have sent them so early to bed;
 But then I was troubled, my feelings found vent,
 For bank-stock to-day has gone down ten per cent.
 But of course they've forgot their troubles ere this
 And that I denied them the thrice-asked for kiss;
 But just to make sure, I'll steal up to their door.
 For I never spoke harsh to my darlings before."
 So saying he softly ascended the stairs,
 And arrived at the door to hear both of their prayers.
 His Annie's "bless papa" draws forth the big tears,
 And Willie's grave promise falls sweet on his ear.
 "Strange, strange I'd forgotten," said he with a sigh.
 "How I longed, when a child, to have Christmas draw nigh."
 "I'll atone for my harshness," he inwardly said,
 "By answering their prayers ere I sleep in my bed."
 Then he turned to the stairs and softly went down,
 Threw off velvet slippers and silk dressing-gown—
 Donned hat, coat and boots, and was out in the street,
 A millionaire facing the cold drifting sleet.
 Nor stopped he until he had bought everything,
 From the box full of candy to the tiny gold ring:
 Indeed, he kept adding so much to his store,
 That the various prayers all numbered a score.
 Then homeward he turned with his holiday load,
 And with Aunt Mary's aid in the nursery 'twas stored:
 Miss Dolly was seated beneath a pine tree,
 By the side of a table spread out for the tea,
 A work-box well filled in the centre was laid,
 And on it a ring, for which Annie had prayed.
 A soldier in uniform stood by a sled.
 "I'll bring shining runners and all painted red."
 There were balls, dogs and horses, books pleasing to see,
 And birds of all colours were perched in the tree;
 While Santa Claus, laughing stood up in the top,
 As if getting ready more presents to drop.
 And as the fond father the picture surveyed,
 He thought for his trouble he had amply been paid,
 And he said to himself as he brushed off a tear,
 "I'm happier to-night than I've been for a year,
 I've enjoyed more true pleasure than ever before,
 What care I if bank stock falls ten per cent more,
 Hereafter I'll make it a rule, I believe,
 To have Santa Claus visit us each Christmas Eve.
 So thinking, he gently extinguished the light,
 And tripping down stairs he retired for the night.
 As soon as the beams of the bright morning sun
 Put the darkness to flight, and the stars one by one,
 Four little blue eyes out of sleep opened wide,
 And at the same moment the presents espied,
 Then out of their beds they sprang with a bound,
 And the very gifts prayed for were all of them found.
 They laughed and they cried in their innocent glee.
 And shouted for "papa" to come quick and see

What presents old Santa Claus brought in the night.
 (Just the things that they wanted,) and left before light.
 "And now," added Annie, in a voice soft and low,
 "You'll believe there's a Santa Claus, papa, I know:"
 While dear little Willie climbed up on his knee,
 Determined no secret between them should be:
 And told in soft whispers, how Annie had said,
 That their dear, blessed mamma so long ago dead,
 Used to kneel down and pray by the side of her chair,
 And that God up in Heaven had answered her prayer!
 "Then we dot up and prayed dust as well as we could,
 And Dod answered our prayers, now wasn't he dood?"
 "I should say that He was, if he sent you all these,
 And knew just what presents my children to please.
 (Well, well, let him think so, the dear little elf,
 'Twould be cruel to tell him I did it myself.)"
 Blind father! who caused your stern heart to relent!
 And the hasty word spoken so soon to repent!
 'Twas the Being who bade you steal softly up stairs,
 And made you his agent to answer their prayers.

2. PRESENT CONDITION OF THE INDIANS.

Concerning the present condition of the Indians, the author of the "Sketch of Brant" writes:—

Formerly all Indians lived in wigwams and subsisted by hunting and fishing. Hundreds, nay thousands, still pagans, are no better off at the present time. But it is a matter of gratitude to Almighty God that through the labours of zealous and excellent missionaries, the religion of Jesus has done much to reform the moral, social, and domestic habits of these once degraded races. The women, who formerly were slaves to the men, have no longer the drudgery and hard work to perform, but are living in comfortable cottages, neatly clothed, and enjoying that peace which the religion of Jesus alone can give. The sober and industrious men are making considerable progress in farming; many of them grow wheat, oats, peas, Indian corn, &c. &c., have small orchards, and cut considerable hay. But as the Indian possesses no *Title Deed* for his lands, he has only a life interest in them—a circumstance materially tending to check that spirit of enterprise which stimulates the white farmer in working and laying up for his family.

Excepting the protection of law, which every alien who resides in Her Majesty's Dominion claims, Indians do not possess any civil or political rights as British subjects. As many of them possess strong native talents, powers of foresight, quick and accurate observation, conjoined in many instances with extraordinary personal influence and persuasive faculties, why they should not participate in all the blessings of British North American subjects, and with their white neighbours enjoy permanent security of their landed possessions, is a query for our rulers and great men to solve.

As soon as the white man approaches the Indian reserves, the value of land greatly increases, and in many instances land speculators have not suffered the poor Indian to rest, until by some artifice or other, they have prevailed on them to quit their settlements and seek fresh homes in the far-off West. Many arguments have been advanced with the plausibility of philanthropic intentions, that by such removals they were rendering the Indian service; but the fallacy of such reasoning is evident.

If while under the counsel of those who sincerely desire their advancement and improvement, they still feel the influence of those whose aim is to injure and demoralize, what will their condition be benefited when driven far beyond the power of Christian example and restraint?

The Indians within our Provinces are well aware of the advantages of civilization, and desire to improve in arts and knowledge, so that they may participate in our privileges. It is a matter of congratulation that in many of the settlements efforts are now made to encourage and bring forward by the system of competition, those who apply themselves to agriculture and the arts, and also that many Indian youths, who have discovered superior talents, are now receiving advantages of a higher degree, fitting them as teachers amongst their brethren.—*From the New Dominion Monthly for December.*

3. THE NEW JAPANESE CALENDAR.

The Japanese calendar and mode of reckoning time, which have been observed in the Empire during, as it is supposed, two thousand five hundred and thirty-three years, was changed, and the foreign Christian method substituted in its stead, on the first of January, 1873. New Year's day will in future be the first day of the first month of the Japanese year. The day is to be divided into twenty-

four hours, instead of twelve, as before, and the one which corresponds to Sunday is to be observed as a holiday. Strange to say, the Japanese chroniclers and astronomers have just discovered that the 25th day of December should have always been observed as a grand holiday by the Japanese, and that the ceremonial has been neglected for some reason which they are unable to explain. Christmas Day is to be henceforth held sacred to Trinnia, the first Emperor of Japan. These extraordinary facts are really encouraging to the progress of the Christian cause in Asia. Do they come, even at this late moment, from the dogmas of Confucius or the preaching of St. Francis Xavier and other missionaries?

VII. Biographical Sketches.

1. MRS. MARY SOMERVILLE.

A distinguished Scotchwoman has passed away. Mary Somerville was educated at Musselborough school, near Edinburgh, and, like many men and women of genius, did not give her early preceptors any impression of marked ability. Her first husband—a navy officer, and a man of some scientific attainments—discovered in her a great talent for mathematics, and took great pleasure in instructing her in the exact sciences. "The hard grained muses of the cube and square," presided over their honey-moon, and each grew tender over equations throughout the months that followed. Her first work, a summary of the "*Mecanique Celeste*" of Laplace, was intended for the Library of Useful Knowledge, and was undertaken at the suggestion of Lord Brougham, but proving too voluminous it was issued in a distinct form in 1831. To this succeeded "*The connection of the Physical Sciences*" in 1834; and in 1848, "*Physical Geography*." She was, in 1835, elected an honorary member of the Royal Astronomical Society and early received a grant of £300 a year from the Civil List. Her scientific works are characterized by depth and distinguished spirit.

2. THE NECROLOGY OF 1872

The death-roll of the year just closed includes the names of many persons who acquired distinction in their respective pursuits. Journalism lost Horace Greeley, founder of *The Tribune*, who was mourned by the whole American people: James Gordon Bennett of *The New York Herald*, Mr. Spalding of *The New York World*, Edward A. Pollard, formerly of *The Richmond Examiner*; Thomas B. Holcombe, formerly editor of *The Indianapolis Sentinel*; the Rev. Amasa Converse, editor of *The Christian Observer*; Adolphe Guerout of the French press, Joseph B. Lyman and William F. Beers of *The Tribune* staff, and D O'C. Townley.

Literature lost Charles Lever, the genial moralist; Theophile Gautier, the French art critic, moralist and poet; D'Aubigné, the historian of the Reformation; Prof. Maurice, Frederick Gerstaecker, Prof. Hadley of Yale, Sir John Bowring, the reformer, writer, and versatile linguist; Robert Prutz, A. W. Fonblanque, Sara Payson Parton (Fanny Fern); Norman McLeod, Moritz Hartmann, Scotch churchman and author; Horace Maynard, the English novelist, and Franz Grillparzer, who enriched German dramatic literature.

Many great names have been lost to science—among them Prof. Lee, eminent in medicine; Major-Gen. Chesney, the pioneer of the overland route to India; Professor Morse, the great electrician, Feuerbach, the German speculative philosopher; Babinet, the French savant; Dr. Francis Lieber, the publicist; Prof. Upham of Bowdoin College; Mary Somerville, the English astronomer; M. Ponchet, the French physiologist; Dr. W. Baird of London, and Prof. Goldstacker, the philologist.

The pulpit has lost Dr. Francis Vinton of Trinity Church; the Rev. Dr. Henry Ostrander of the Reformed Church, Saugerties, N. Y.; Peter Cartwright, the Methodist backwoods preacher; the Roman Catholic prelates Cardinal Amat, Archbishop Spaulding, Bishop McGill of Richmond, and the Very Rev. Thomas Mulrey, Vicar-General of the Diocese of Virginia.

Among the great soldiers who died were Major-Gens. Meade and Halleck of the regular army; Marshall Forey, of the French army; Lieut.-Gens. Ewell and Patten Anderson and Gen. Wright, of the Confederate army; Field Marshal Sir George Pollock, Constable of London Tower.

The death-roll of artists includes Kensett, the landscape painter; Sully, Ames, T. Buchanan Read, both painter and poet; and Robert S. Duncanson and George Catlin, all Americans; and Westmacott, the English sculptor.

The stage lost the veterans Forrest and Sedley Smith; also, Miss O'Neill, who was popular in England 50 years ago, Eliza Logan, McKean Buchanan, Bogumil Dawson and Emil Devrient.

Few eminent musicians died; the art, however, lost Hastings, the writer of church music; Lowell Mason of New England fame, and Henry Chorley, the critic of the London *Athenaeum*.

Among Americans in political life who died were ex-Secretary Seward, ex-Minister Ingersoll, ex-Postmaster-General Randall, Humphrey Marshall of Kentucky, ex-Gov. Bragg of North Carolina, Norman Eddy, Secretary of State for Indiana; ex-United States Senators Wall of New Jersey, Grimes of Iowa, Walker of Wisconsin, Van Winkle of West Virginia, Garrett Davis of Virginia.

Among the foreigners distinguished in political life who died were Juarez, President of Mexico; Earl Mayo, Governor-General of India, assassinated by a religious fanatic; J. R. Thorbecke, Dutch statesman; Mazzini, the great Italian revolutionist; Duke de Persigny, the ardent adherent of Napoleon III.; Conti, another devoted friend of the ex-Emperor; Sir Henry Bulwer, brother of the novelist; Lord Lonsdale, once Postmaster-General of England; and the Duke of Bedford.

Royalty and royal houses lost King Charles XV. of Sweden, Archduke Albrecht of Austria, the Duke de Guise, Don Angel Iturbide, son of the first Emperor of Mexico; Prince Frederick Albert of Germany, King Kamahameha of the Sandwich Islands, Archduchess Sophia of Austria.

VIII. Educational Intelligence.

—One hundred and fifty-four women were candidates at the last examination of the University of Cambridge, against 127 last year. The proportion of failures has decreased.

—Yale pays its professors \$3,000, Harvard, \$2,600; Dartmouth and Wooster University, \$2,000; Marietta, \$1,800; Oberlin and Wabash, \$1,500; Western Reserve, \$1,300. A slender stipend, at the largest, for work that in many cases is beyond price.

—Hamilton College receives from the Samuel F. Pratt, of Buffalo, N. Y., \$30,000 for the endowment of a new professorship.

—The University of Zurich seems to be contributing its mite to solve the problem of university education for females. Out of some 400 students now in attendance, it is stated that 80 are ladies—most of them students of medicine.

—Gottenberg, Sweden, is to be the seat of a medical college which will afford a three years' course of study to ladies over seventeen years old. After receiving diplomas, they can practice in any part of Sweden as physicians.

—Madison University has four natives of Burmah among its students.

—Rev. Dr. Eliphalet N. Potter was formally inaugurated president of Union College at the last commencement, and the alumni pledged themselves to raise \$100,000 for the college.

—Harvard University lost about \$200,000 by the great fire in Boston, which will, without doubt, be soon made up by her friends, who have already subscribed more than \$150,000 towards this amount.

—The faculty of Harvard College are making a determined effort to put an end to "hazing" and "rushing."

—The library of the Rochester Theology Seminary has received a gift of \$25,000 from John M. Brace, Esq., which makes about \$125,000 added to the productive funds of the Seminary within the last few months.

—Harvard College has recently announced that women cannot be admitted to the classes in that institution. The report says:—"would take much time and labour to arrive at an unprejudiced understanding of the practical operation of the co-education of the sexes in the colleges where it now exists."

—The corner stone of an Agricultural College to cost \$180,000, has just been laid in California. Dr. Stebbins, in his address on the occasion, said: "The University is open to the young women of the State on the same terms as to the young men."

—We are pained to record the recent death, in his 74th year, of Francis Lieber, LL.D., Professor of Constitutional History and Political Science in Columbia College Law School.

—The catalogue of Yale College for the present year, -shows 76 instructors and 904 students.

—HON. C. G. NORTHPROP ON EUROPEAN SCHOOLS.—At the State Teachers' Institute, recently held at Suffield, Conn., Secretary Northrop made an address, giving an interesting account of the progress of education in Europe. The prospect of popular schools in Germany and Italy he presented as promising. He considered that we surpassed Europeans in school architecture—no city in Europe, he said, equalling Hartford in this respect—and in arithmetic, in which our methods of computations are more quick and accurate. Yet they may be regarded as in advance of us in the following particulars: 1. More thorough supervision of schools; 2. Plan of gradation; 3. Culture of the expressive faculties—Americans have a few set words and phrases which are made to do duty on all occasions, without reference to propriety or congruity; 4. Independence of text-books. They teach the subject rather than the book—the matter rather than the letter, and their teaching is more conversational; 5. More thorough teaching of history; 6. Mode of teaching modern languages; 7. Drawing. Napoleon had said, "Let it be taught in all the schools." The Swiss are in advance of all other countries in this art. To this their general prosperity was owing. Hemmed in among the mountains, they own their own houses and are more prosperous than many other countries with better advantages. England pays five times as much for pauperism as for education, while Switzerland pays seven times as much for education as for crime. Drawing has chiefly made this difference. Mr. Northrop urgently counselled all the teachers to teach every one of his and her scholars drawing, even if they had to neglect other studies. Mr. Northrop closed his address by quoting a motto of Dienter, to whom Prussia is so much indebted for her present position in the matter of education: "I solemnly promised God that I would look upon every Prussian child as a being who could justly complain of me before Him if I did not use the utmost means to give him the best education in my power."—*Hartford Post*.

—There are something like five millions six hundred and sixty thousand persons under age in the United States who can neither read nor write. These figures would indicate that a certain amount of compulsory education would not be amiss.

—The number of graduates from the New York State Normal Schools for the entire year 1872 is three hundred and twenty, while that of the previous year was one hundred and ninety-six. The aggregate attendance of normal students for the past year was about three thousand.

—The Board of Education in New York City reports a daily attendance upon the public schools for the last year of about 200,000 pupils. For such of these pupils as choose to pursue an advanced course of study the College of the City of New York and the Normal College furnish it free to boys and girls respectively. Last year there were in the City College and preparing to enter 527 students, and in the Normal College about 1000, showing that considerably less than one in a hundred of the pupils in the public schools ever attempt to go beyond the grammar school, while probably not more than one in six of those who make the attempt complete the full collegiate course.

—Germany publishes more educational works, aside from school text-books, than any other country, her publications of this class during the year 1871 numbering 1059.

—Mr. Mori, the Japanese minister, gives some details of the new educational system of Japan, which, he says, embraces the organization of eight colleges, 256 high schools, and over 52,000 public schools, at which the attendance is to be compulsory for all children above six years of age.

—Schools for printers are in existence in all parts of Germany. Apprentices and artisans attend them largely, and are taught the theory and practice of printing and kindred arts, as well as a general knowledge of foreign languages, and an accurate knowledge of the types of all languages they are likely to meet in their calling. One of the largest and best organized is in Stuttgart.

—Punctuation was first used in literature in 1520. To our certain knowledge it has been dropped from manuscripts within the last few years.

QUEEN'S COLLEGE, KINGSTON.—The *Mail* says:—The Queen's College Board of Trustees seem to be quite conscious of the necessity they are under of introducing greater educational facilities, from time to time, to maintain the high position that that institution has occupied for between twenty and thirty years. Keenly alive to the rarity of good reading in the church, and noting the grievous results of bad delivery, they have recently made arrangements with Professor A. Melville Bell for the delivery of a course of lectures on Elocution. It is hoped that all the students will avail themselves of the excellent opportunity of improvement in this respect, particularly those who are destined for the ministry. If public speaking and reading were more generally regarded as a difficult art, and one absolutely necessary to be acquired, we should hear fewer stanzas of Hebrew poetry spoilt and fewer passages of Jewish narrative bungled than at present, "a consummation most devoutly to be wished." Professor Watson, the successor to Professor Murray, has recently entered on the duties pertaining to the Chair of Logic. His inaugural address was on "The Relation of Science to Philosophy." This gentleman's career at the Glasgow University was an exceptionally creditable one; and from the high opinion entertained in Scotland of his ability, great expectations are formed of him as teacher of Philosophy. It is a distinctive mark of this country that a good education is attainable by all; and we cannot but rejoice when we hear of the success and progress of such an institution as Queen's College. In a pecuniary sense it has been a success, the large sum of \$115,000 having been subscribed to the endowment fund; but in a far wider and important sense has success attended it. Some of our best and wisest men, who are exercising an inestimable influence for good in this country, were graduates of Queen's College; and none can estimate the benefits likely to accrue to us as a people from the ever progressive spirit of this and kindred institutions in our midst.—*B. A. Presbyterian*.

IX. Correspondence.

BUILDING OF SCHOOL-HOUSES.

GENEROUS POLICY IN OPS.

To the Editor of the Journal of Education.

LINDSAY, Dec. 28, 1872.

DEAR SIR,—There is a practice in the Township of Ops which the *Journal of Education* might bring under the attention of its readers in reference to the building of School-houses. The Township Council grants a bonus to each school section, provided it builds a first-class School-house. The amount of the bonus is proportionated to the amount levied by the section. I have not the exact figures, but I think it is about one-third. When the section raises six hundred the Council grants three hundred dollars.

Under the influence of this wise liberality on the part of the Township Council, Ops now prides itself on having the best Common School-houses in the Dominion.

I have the honour to be your obdt. servt.,

M. STAFFORD,
Catholic Priest.

X. Notices of Books.

*SHORT CRITICAL NOTICES OF BOOKS.

Record of Science and Industry for 1871. By Spence F. Baird. pp. 634.

The design of this work is to furnish a brief, yet sufficiently full, mention of the more important discoveries in the various departments of science in the year 1871, and among the principal are those made in Mathematics and Astronomy, Meteorology, Electricity, Light, Heat and Sound, Chemistry, Mineralogy and Geology,

* New York: Harper and Brothers. Toronto: Copp, Clark and Co.

Geography, Natural History and Zoology, Botany and Horticulture, Agriculture, Household Economy, Mechanics and Engineering, Technology, Medicine, &c. In the preparation of this interesting and instructive work, Mr. Baird (of the Smithsonian Institution, Washington U. S.) has been assisted by many eminent men of science, and he has produced a volume, the design of which has been to furnish abstracts only, divesting the different subjects as far as practicable of mere technicalities, and omitting what was not properly relevant. In addition to the subject matter of the book, Mr. B. has added a chapter on the summary of scientific progress of the year 1871, a short biographical notice of many of the scientific men who died during that year, also an Index to the References and a Classified Index.

Force. By Jacob Abbott. pp 305 :—This volume is the fourth of a series of books, entitled "Science for the Young." The object of the Series, as stated by Mr. Abbott, is not mainly to amuse the readers with the interest of incident and adventure, but to give some substantial and thorough instruction in respect to the fundamental principles of the sciences treated of in the several volumes. The book is furnished with woodcuts, which serve to illustrate the subject matter. Mr. Abbott has succeeded in making the various topics on which he has written, both interesting and instructive. The other members of the series are "Heat," "Light," "Water" and "Land," which are dealt with in the same readable and interesting way. The idea of bringing scientific knowledge to young minds, in the way Mr. Abbott has done, is indeed an admirable one. We wish him every success.

St. Paul in Rome. By J. R. Macduff, D. D.—This volume is a collection of sermons preached by Dr. Macduff in the "Eternal City" in the spring of 1871. They are thoughts on the Teachings, Fellowships and Dying Testimony of the great Apostle of the Gentiles in the city of the Caesars. In the introductory chapter, Dr. Macduff speaks of the various places in Rome, connected with the personal history of St. Paul, which were visited by him. His purpose in the sermons, as stated by himself, is to convey a few impressions gathered recently on the spot regarding localities, associated with the great Apostle. The sermons, which are eight in number, were preached on eight successive sabbaths, in fulfilment of a duty devolved upon the author by the church at home. The following are among the subjects embraced in the collection :—St. Paul's announcement of his purpose of going to Rome, as set forth in Romans i. 15-16 ; St. Paul's letter to the Romans ; St. Paul's fellowships in Rome ; The Bible in Rome ; St. Paul's converts in Rome ; St. Paul's prayer in Rome for Onesiphorus ; St. Paul's dying testimony in Rome ; His Martyrdom. This work cannot fail to be of great use to the student of the Bible, on account of the many interesting and instructive facts which it relates of the great Apostle to the Gentiles in the "Imperial City of the seven Hills," a subject which must ever be fraught with great interest, on account of the man of whom the narrative speaks.

The Ocean. By Elisée Reclus. pp 534 :—This valuable scientific work is from the pen of Elisée Reclus and is the second series of a descriptive history of the life of the globe. M. Reclus is the author of a similar work entitled "The Earth." The subject has been very thoroughly gone into by the author, and we have no doubt but that the information it contains will be very useful to lovers of science. The volume is illustrated with 250 cuts and 27 maps which are most beautifully printed in colours. The maps we perceive were printed in England. The book is divided into three parts, 1st. The ocean, 2nd. The Atmosphere and Meteorology, 3rd. Life.

The Revision of the English Version of the New Testament. By Philip Schaff D. D. Divinity Professor in the Union Theological Seminary, New York. pp 178 :—This book consists of three valuable Treatises respectively by Dr. Lightfoot, Canon of St. Pauls, Archbishop Trenchard and Dr. Ellicott, Bishop of Gloucester and Bristol, on the Revision of the Bible, with an introduction by Dr. Schaff. The introduction contains many interesting facts relative to the revision of the Bible, among which are the names of the British Revision Committee, Rules of the British Committee, American Co-operation, List of American revisers, Constitution, Character of the English Version. The improvements suggested. Dr. Schaff himself is a member of the American revision Committee.

History of Journalism in the United States from 1690 to 1872. By Frederic Hudson. pp 789. In this volume Mr. Hudson has presented to the reading public a most valuable book on an interesting subject of which he seems to be entirely master, and into which he has fully entered. He has divided the period from 1690-1872 into six eras, each of which becomes more entertaining than the previous one, as he gradually approaches the history of journals in our own day. The volume is brought to a close by a fitting tribute to one of the greatest of American Journalists, Horace Greeley, for whom Mr. Hudson seems to have entertained a great respect.

Sermons. By the Rev. T. DeWitt Talmage. pp 405, 416 :—We

have before us the sermons of the Rev. T. DeWitt Talmage, delivered in the Tabernacle, Brooklyn N. Y. They are divided into two series, the second of which contains a biographical sketch of Mr. Talmage, who is perhaps one of the most striking preachers in the United States at the present time. His sermons have received much attention both from the public and the press. He possesses great power of description, and his pictures are graphic and startling. Spurgeon, in speaking of Mr. Talmage's sermons says "they lay hold of my inmost soul" the sermons are phonetically reported and revised, and any one reading them may depend on having the exact words of Mr. Talmage, and we recommend them to the perusal of the Christian public, as examples of earnest faithful preaching of a special kind.

XI. Mathematical Department.

MATHEMATICAL NOTES.

1st. "City of Toronto Debentures. &c."—It is to be regretted that Mr. Scudamore did not so explain wherein his method of solution differs from Mr. McLellan's, as to show to the general reader that his is the correct one. The difference is this :—At the end of the first year the City pays the holder of the debenture \$6. Mr. Scudamore immediately credits the City with the amount, and continues to charge interest on the balance. Mr. McLellan continues to charge ten per cent. on the whole amount, and allows the City but six per cent. on its \$6, at the end of the six years giving credit for the amount thus produced. This is repeated at the end of each of the first five years. If one charges ten per cent. on a transaction, he should allow the same on every payment made. Were Mr. McLellan to do this, he would obtain the same result as Mr. Scudamore. The problem is simply: Find the present worth of a six term annuity of \$6, payable at the end of each year, and a sum of \$100 payable at the end of six years, money being worth 10 per cent.

2nd. "A lends B. \$1,000, &c."—Mr. White's solution is not for simple interest, as required, but for compound interest. Mr. White says he has no satisfactory solution. The formula is $(1.16 - R)^{10} = 16$ (Annuities at compound interest). Horner's method may be used, or the following :—Find an approximate solution from the above, and substitute it in the right hand side of $R = 1.16 - \log^{-1} \{ 4.19382 - 10 \log \frac{1}{2} R \}$.

Similarly substitute the value of R thus found. Repeat until the desired approximation is obtained. Only one log. and an anti-log. has to be found at each substitution. I take $\frac{1}{2} R$ to throw the log. into the middle of the table. $R = 1.09606$.

J. C. GLASHAN.

MATHEMATICAL NOTES.

MR. EDITOR,—In opening the June *Journal*, I see some criticisms on my problems by Mr. Glashan, and I want to explain. I proposed them first to myself and made formulas as necessity suggested. The wording, and my numerical solution of the easy little Diophantine, "The Carpenter's Square," show it was meant for mechanics; and if after the lapse of two months, he found a formula better than my "awkward" one, the credit is his. The "old college one," he says, Mr. Kidd mentions, originated thus: When the latter lived in Fergus, I published a new problem in the *News Record*, and called it "The Belfast College" problem, because I came from Belfast, and had read and admired a treatise on the Diophantine Analysis, by J. R. Young, Professor in the College. A solution resembling my own was given. The "Indian Reserve," also a new one, appeared in September, 1870, and Mr. Glashan, in July, 1872, solved it by a formula which, he says, he found in Todhunter, although, he says, "Authorities are no authorities in mathematics." Mr. Scudamore gave it a neat and noiseless solution. Mr. Doyle's suggestions on "Friendly Competition," and his questions, are worth reflection. His fourth question, $x^2 + y^2 = z^2$, I tried years ago, but never could find rational values. Will some one publish a solution?

Mr. Glashan's expression of Newton's "Binomial Theorem," and his extraction of roots of polynomials, by the usual way, evinces much patience. Still, science is not measured by the square foot. It is only by trying men, detached from books, and on a variety of strange questions, with a limited time to work, that their relative merits can be known.

Yours, &c. &c.

JOHN IRELAND, Teacher,
Metz, P. O.

December 1st, 1872.

15th, 16th, 17th, 21st, 28th, 29th. Rain, 1st, 5th, 7th, 8th, 11th, 13th, 23rd, 24th.
STRATFORD.—Mill pond frozen, 16th. First sleighing, 20th. Wind storm, 7th, 13th, 25th, 27th, 29th, 30th. Fog, 4th. Snow, 7th, 8th, 15th, 16th, 18th—22nd, 29th—30th. Rain, 5th, 7th, 11th, 14th.
HAMILTON.—Wind storm, 15th, 25th, 27th, 30th. Fog, 5th, 22nd, 24th, Snow, 15th, 17th—20th, 22nd, 23rd, 27th, 28th, 29th, 30th. Rain, 1st, 2nd, 5th—8th, 11th—14th, 24th.
SIMCOOK.—Wind storm, 27th. Snow, 15th, 16th, 19th, 27th, 28th. Rain, 1st, 4th, 5th, 7th, 12th. Gloomy month, very few sunny days. Horse disease prevalent, and in many cases fatal. Crops much below the average; hay scarce and dear.
WINDSOR.—Lunar halo, 8th, 10th, 11th, 12th, 13th, 15th. Meteor 25th, in N., towards H.; another through auriga towards H. A number of meteors in N. part of heavens 27th. They moved in parallel lines, and in pretty close succession, some above the pole and some below; all moved towards the N. H. Wind storm, 7th, 25th, 27th. Snow, 7th, 15th, 19th, 22nd, 28th, 29th. Rain, 2nd, 5th, 11th.

XIII. Departmental Notices.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

PRIZE PLANS FOR SCHOOL-HOUSES AND SITES.

Thirty persons have competed for the prizes which the Chief Superintendent announced in August that he would give for the best interior plans of School-houses, of various dimensions, and for the best block plans, on acre and half acre School sites.

Of these thirty plans, four were of superior merit, in various features, nine were of varying excellence, while seventeen either did not come up to the standard required, or had other palpable defects in them.

Although, strictly speaking, only prizes to the value of \$95 should have been awarded for these plans, yet it was felt that, as so many of them displayed some feature of excellence, an acknowledgment of that excellence should be made. Additional extra prizes were, therefore, awarded by the Chief Superintendent, to the value of \$115, or more than the original amount proposed as prizes.

It is gratifying to note the taste and skill evinced by the various plans which have been sent into the Department, and which the offer of these prizes has been the means of discovering and drawing out among the Inspectors, Teachers, and Masters. It only shows that in our own country we have the taste and talent necessary to aid in the good work of providing for our School Sections neat and comfortable School-houses. There is no reason, therefore, why this skill should not be made available for this purpose. In order to aid in doing so, it is proposed to combine in a few of the prize plans the excellence of all, and have them engraved for insertion in this *Journal*, during the coming year, should the Legislature see fit to make the usual grant for its publication.

We heartily congratulate all parties concerned in this practical "step in advance," designed as it is to promote a most important interest of our Schools.

The following is a list of the plans sent in, with the prizes which have been awarded:—

PRIZE PLANS OF SCHOOL-HOUSES AND SITES.

MOTTO OF SENDER.	TOTAL
No. 1.—"Education is the bulwark of liberty." First prize for interior, \$25; second prize for block plan, \$15.....	\$40

No. 2.—"Le jour viendra." One prize for interior, and extra for block	\$25
— 3.—"Docendo Discimus," No. 1. One prize for interior, and extra for block	25
— 4.—"Docendo Discimus," No. 2. One prize for interior, and extra for block	20
— 5.—"Alpha." One prize for interior, and extra for block	15
— 6.—"Episcopon." One prize for interior, and extra for block.....	15
— 7.—"Iota." One prize for interior, and extra for block	15
— 8.—"True Economy." One prize for interior, and extra for block.....	15
— 9.—"All is not gold that glitters." Extra prize...	10
— 10.—"Multum in Parvo," No. 1. do. ...	10
— 11.—"Felix." do. ...	10
— 12.—"Per Vias Rectas." do. ...	5
— 13.—"Rural and Maple Leaf," No. 1. do. ...	5
— 14.—"Interest." do. ...	5
— 15.—"E. L. F." do. ...	5
— 16.—"Ami de mouvement." do. ...	5
— 17.—"Hopeful." do. ...	5

\$230

PLANS NOT ACCEPTED.

— 18.—"Ku Klux."
— 19.—"Onward."
— 20.—"Maple Leaf," No. 2.
— 21.—"Multum in Parvo," No. 2.
— 22.—"McK."
— 23.—"Coup d'essai."
— 24.—"Excelsior."
— 25.—"I try."
— 27.—"Sigma."
— 28.—"Pro bono publico."
— 29.—"Spero sed metuo."
— 30.—"Red Ink."
— 31.—"New Dominion."

The motto envelopes having been opened after the prizes were awarded, the names of the winners of the prizes, in the order in which they are arranged above, were found to be the following:—

No. 1.—Otto Klotz, Esq., Ex-Local Superintendent, Preston: "Education is the Bulwark of Liberty." Two prizes	\$ 40
— 2.—Henry De La Matter, Esq., Head Master, High School, Owen Sound: "Le jour viendra." Two prizes	25
— 3.—Mr. S. S. Cann, Teacher, Port Hope: "Docendo Discimus," (No. 1.) Two prizes.....	25
— 4.—Robert Little, Esq., Inspector, Co. Halton: "Docendo Discimus," (No. 2.) Two prizes	20
— 5.—Mr. Jas. Dickie, Hamilton: "Alpha." Two prizes,	15
— 6.—Jas. H. Ball, Esq., M.A., Inspector, Co. Welland: "Episcopon"	15
— 7.—Mr. George F. Payne, Teacher, 10 E. Zorra: "Iota"	15
— 8.—Mr. John Irwin, Teacher, No. 3 Belleville: "True Economy"	15
— 9.—Mr. Francis C. Powell, Teacher, Port Elgin: "All is not gold that glitters"	10
— 10.—John B. Somerset, Esq., Inspector, Co. Lincoln, and J. H. Comfort, Esq., Inspector, St. Catharines: "Multum in Parvo"	10
— 11.—Mr. Wm. O'Connor, Teacher, Seaforth: "Felix"	10
— 12.—R. Harcourt, Esq., Inspector, Co. Haldimand: "Per Vias Rectas"	5
— 13.—Mr. W. Laing, Hamilton: "Rural Maple Leaf"	5
— 14.—Mr. Hugh Robertson, Teacher, Toronto "Interest"	5
— 15.—Mr. D. McIntyre, Teacher, No. 10 Lancaster, "E. L. F."	5

— 16.—Mr. Robt. S. Gould, Teacher, Canning, "Ami de Mouvement".....	5
— 17.—G. D. Platt, Esq., Inspector, P. E. County, "Hopeful".....	5
Total.....	\$230

These prizes will shortly be payable, and due notice given to each successful competitor.

CERTIFICATES GRANTED BY THE COUNCIL OF PUBLIC INSTRUCTION.

The Council of Public Instruction have granted First Class Certificates to the following teachers, on the recommendation of the Central Committee of Examiners.

GRADE A. Mr. Arthur Brown.
Miss Anna Living.
Mr. George A. Somerville.

GRADE B. Mr. Robert Cooley.

There were in all fifteen candidates at the recent examinations, which lasted six days, and were conducted simultaneously in all the cities and county-towns where competitors presented themselves; only those being eligible who had previously obtained Second Class Certificates. The same papers (fifteen in number) were furnished to all the candidates, and the answers having been written in the presence of the local examiners were transmitted to Toronto. The examination embraced the following subjects:—Education, School Law, Arithmetic and Mensuration, English Grammar and Etymology, Chemistry, Physics, Natural Philosophy, History, Book-keeping, Algebra, English Literature and Composition, Botany and Agriculture, Euclid, Geography, Zoology and Physiology. Of the four successful candidates all received their training at the Provincial Normal School, with the exception of Mr. Brown.

XIV. Advertisements.

THE SCHOOL LAW EXPLAINED.

The Publishers (Copp, Clark & Co., King St., Toronto) beg to announce that they have just published a full Exposition of the School Law of this Province, the Official Regulations and Decisions of the Superior Courts, by Dr. Hodgins, Deputy Superintendent of Education, in a three-fold form as follows;

PART I. Lectures on the School Law of Ontario, and regulations relating to:

1. Rural School Trustees.
2. School Collectors and Auditors.
3. Public School Meetings—School Sites and Arbitrations.
4. Public School Teachers and Pupils.

Being the subjects of examination prescribed for Teachers' Second and Third Class Certificates of Qualification.

PART II. Lectures on the School Law of Ontario and Regulations relating to:

1. Municipal Councils (of all kinds).
2. City, Town and Village School Trustees.
3. Arbitrations and Awards.
4. Public School Inspectors and Examiners.
5. Chief Superintendent and Council of Public Instruction.
6. Acts relating to Roman Catholic, Protestant and Coloured Separate Schools.
7. Copious Analytical Index to Part I and II.

Being, with the exception of Numbers 5-7, the subjects for Teachers' First Class Certificates of Qualification; and for Public School Inspectors and Examiners.

Part I and II contains the substance of Lectures on the School Law, etc., to Normal School Students.

These Lectures can be obtained from the publishers or through any bookseller at the following rates:

- Part I, 55 cents, free of postage.
- Part II, with index, 85 cents, free of postage.
- Parts I and II together \$1 35, free of postage.

COPP, CLARK & CO.,

Publishers, 17 & 19 King Street East, Toronto.

Toronto, Jan., 1873.

ONTARIO SCHOOL DESK, WITH FOLDING CHAIRS.

(Patent applied for.)

CHAS. POTTER, MANUFACTURER, 9 KING ST. EAST, TORONTO.



The seats and backs of the improved Folding Chairs are constructed on correct physiological principles, being curved to fit the natural shape of the human body; thus compelling, when seated, a more strict adherence to the erect posture, and, by allowing the chest of the pupil full expansion, establishing better health and physical deportment than could be produced by the old pattern chair, which causes the pupil to be in a stooping position most of the time. The Folding Chairs enable the pupils to take and leave their seats without the slightest disturbance. They also afford a better chance for cleanliness, as there are no angles for the lodgment of dust, and a free passage is obtained when the seat is lifted for the sweeping and washing of the School-room floor. Educators who have studied the wants of schools, are all in favour of Folding Seats. The desk has the proper inclined plane for writing on; beneath the top there is ample space for books, &c. The ends (and backs when ordered) of the Desks are made of ornamental open iron work, so that the teacher may inspect and prevent the concealment of improper articles, or keys to the books the pupils may be using. The improved School Furniture has quite an ornamental appearance, which of itself is a protection from its defacement and destruction by the pupils.

Price for Double Desk with two Folding Chairs, ... \$6.50

Price for Single Desk with one Folding Chair, 4.75

EXTRACT FROM TESTIMONIAL OF REV. DR. DAVIES, TORONTO.

"I have great pleasure in stating that the new Desks and Chairs patented by Mr. Potter, and now used in the Model School, give great satisfaction. . . . They will commend themselves to trustees and those who have the comfort of the pupils at heart."

(Signed) W. H. DAVIES, D.D.,
Principal of Normal School.

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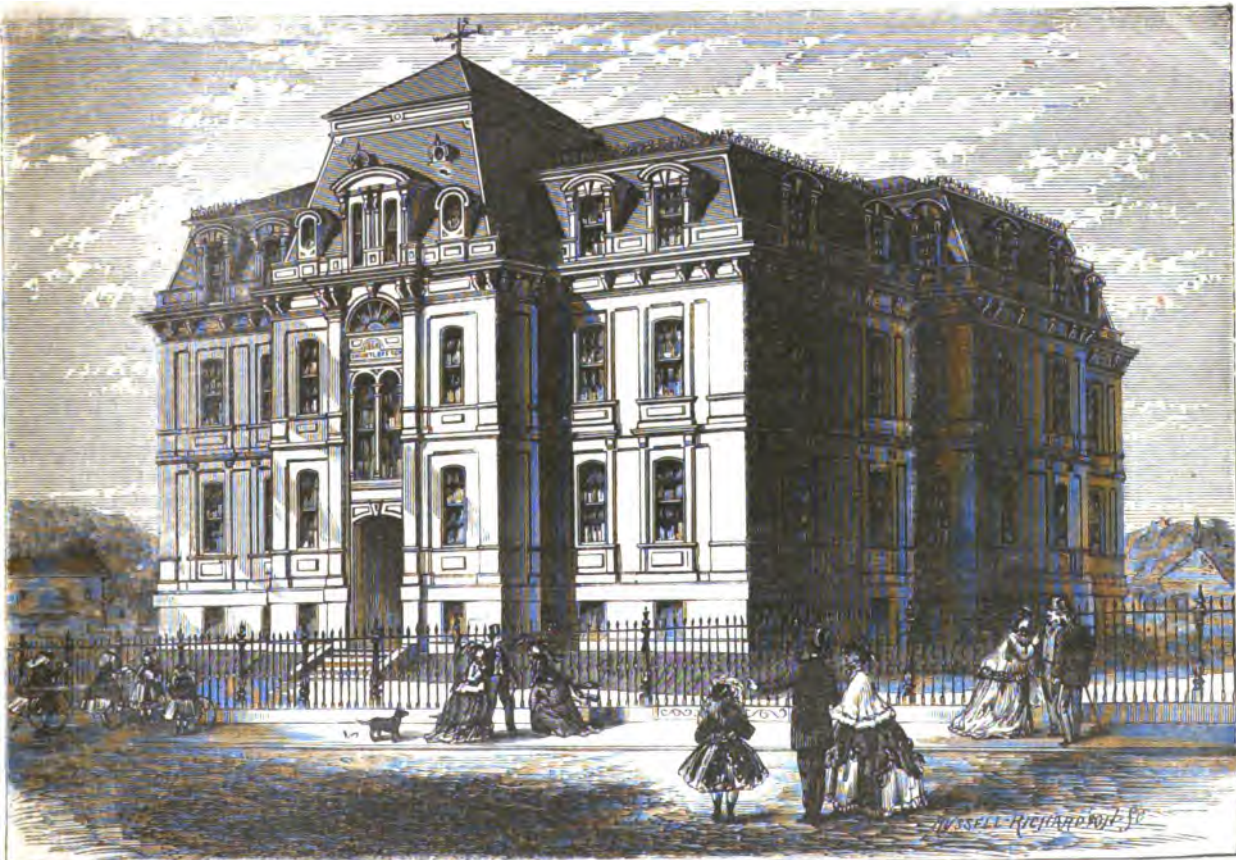
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CONDITION OF OUR HIGH SCHOOLS.

The anomalous and unsatisfactory condition of our High Schools has within the last two or three years called forth a good deal of discussion and unfriendly criticism. Several articles have recently appeared in the newspapers and other publications on the subject. But as there are several facts connected with the history and proceedings of these schools, and many features of their present condition that have been but imperfectly touched upon or illustrated, we purpose to supply these omissions in as brief a manner as possible.

OUR COMMON INTEREST IN THE PROSPERITY OF HIGH AND PUBLIC SCHOOLS.

We have all a common interest in the prosperity and success of our Educational Institutions—in our High as well as in our Public Schools; and no true friends of these institutions will be disposed to absolve those from blame who have allowed private



THE SHURTLEFF GRAMMAR SCHOOL HOUSE, BOSTON.

views or personal interests to interpose barriers to the healthy development and free expansion of the High any more than the Public School, department of our educational system.

THE EDUCATIONAL ANACHRONISM OF 1807.

The early promoters of education in this Province—though it was with a laudable zeal they acted—perpetrated a memorable anachronism, the effects of which, on the character and popularity of our Grammar Schools, it has taken years to moderate and in part to remove. Even now we suffer from the untoward bias which that educational mistake gave to our High Schools as “Class Schools,” in after years.

In 1807, or nine years before a single public elementary school of any kind (except some small scattered private schools) existed in the country as a feeder to a higher class of schools, the Legislature was induced to authorize the establishment of “District” Grammar Schools in different parts of the Province. These schools under the circumstances of their establishment, necessarily partook somewhat of the character of class schools (as we have indicated); and, for that reason, having no hold on public sympathy or support, they were never popular, except in a few individual cases. They continued to exist without much change or improvement in their condition for years; nor were there any efforts made to popularize them until 1853. In that year legislation took place, by which their character was somewhat improved, their condition elevated, and they themselves were incorporated into our educational system. Owing, however, to their continued unpopularity they were not well sustained, and the county councils declined, except in a few cases, to support them. Various plans were from time to time adopted by their friends to keep them in funds, but they maintained a bare existence, and struggled on for years in poverty and consequent inefficiency.

CHARACTER OF THE EFFORTS MADE TO SUSTAIN THE HIGH SCHOOLS.

One fatal cause, which has operated of late years to paralyse the healthful growth and natural development of the High Schools, has been the anxiety, chiefly on the part of the friends of the weaker ones, to force into them the greatest number of pupils, so as individually to absorb the largest amount of the Legislative grant. The friends of the High Schools generally (with some honourable exceptions) quietly laboured with increased earnestness in this direction, in the hope that their neighbours would not take the alarm and outstrip them, and that a larger grant would be the reward of their increased exertions. But in this they were disappointed. The vigilance of the rival schools for an increased grant was also aroused; and the numbers of ill-prepared pupils which were crowded into these rival schools also were found to have so far exceeded what was anticipated, that the enlarged Parliamentary grant, (when apportioned on the basis of the average attendance at each school), was actually found in individual cases, even with their increased attendance, to be less than what the school had received under the old system of apportionment which had been so strongly denounced. Much chagrin was felt at the result, and much unjust odium fell upon the Education Department, on the ground, as was stated, that the grant was not fairly and equitably divided by it. But for this reproach there was not a shadow of reason. In the scramble for the grant, the less unscrupulous were generally the winners, and the Department was powerless to prevent the unseemly strife, although it was held responsible for the alleged losses to individual schools.*

OTHER STEPS TAKEN TO INCREASE THE GRANTS TO INDIVIDUAL SCHOOLS.

In carrying out this suicidal policy for increasing the funds of individual schools, the first step taken was to attack the classical character and standard of the High Schools; the next was to assail as a grievance the policy of the exclusion of girls from these schools. Both points were at length conceded.

The main purpose however for which these attacks were made having signally failed, others followed with more or less success; but the final step taken was to object to the supervision of the High School Inspectors over the admission of pupils to the schools.

This official supervision was urged to be an unjust interference with the schools themselves; and it was even held that it cast a slur upon the character and impartiality of the local examiners! At length even this necessary and wholesome restraint was removed. No one pretends to say that the character or standard of these schools has been improved by these successive assaults on the system—assaults made chiefly with a view to better the financial condition of the schools—or that the schools themselves, as “higher” educational institutions, have benefited by these downward changes. Combined (as these changes unfortunately have been) they have almost indefinitely postponed the reasonable chances for improvement in the schools for some time to come. The opinion of our best High School masters and educators, so far as we have heard them, unite in deprecating in the strongest terms the destructive character and demoralizing influences of these recent changes and levelling “ameliorations.”

OBJECTIONS TO THE HIGH SCHOOL PROGRAMME.

Again, objection has been made, and is still strongly urged to the programme itself, and to the necessity of employing a sufficient number of masters in the High Schools to carry out that programme.

To these objections we propose to reply separately.

First, as to the programme itself. This has been objected to as quite too “high” and exclusive in its character.

Those who urge these objections forget two things:

First, that High Schools are not, and cannot, under the statute, be made elementary schools, any more than can Colleges and Universities be legitimately made High Schools; and secondly, that it is the Legislature, and not the Council of Public Instruction, which has prescribed what subjects shall be exclusively taught in our High Schools,—that the programme is not an arbitrary dictation of subjects on the part of that Council, but is simply the mere arrangement, in a convenient and intelligible form, of the subjects which the Legislature itself has decided to be the essential subjects of study in High Schools. The Legislature has declared that in each High School there shall be taught “all of the higher branches of a good English and commercial education.” As an evidence of the flexibility of the High School law, the Legislature has further provided most liberally that some of these schools may be classical, and some of them English High Schools. No provision has, however, been made by the Legislature, nor authorized by the regulations for giving instruction in the elementary branches, either in “preparatory,” or other unauthorized classes in the High Schools. The Legislature has already made such ample provision in our Public Schools for teaching these subjects, that to teach them in the High Schools would be an interference with the province of the Public Schools. It has, therefore, wisely restricted the teaching in the High Schools to “all the higher branches of a good English and Commercial Education,” etc. The Council of Public Instruction, if it has erred at all, has done so in the direction rather of lowering than of maintaining the proper standard of High School instruction which the Legislature has set up. Thus for instance the Legislature has declared that in the High Schools shall be taught “all the higher branches of an English and Commercial Education,” &c. And yet the Council has fixed the standard of admission to High Schools quite below these “higher branches,” for it has permitted pupils to enter High Schools from a point midway between the 3rd and 4th (out of the six) classes which are prescribed for the Public Schools. Formerly pupils were only admitted to the High Schools after they had completed the public school programme, now they enter after they have only little more than half completed that programme. We have, therefore, the singular fact presented to us, that both Public and

*For List of Apportionments to High Schools in 1872, see page 29.

High Schools are doing substantially the same work as laid down for the 4th, (in part) 5th and 6th classes of the Public Schools, and for the 1st, 2nd and 3rd classes of the High Schools!

As to the financial aspect of this question, and as to the way in which even the low standard of admission has been kept up in various High Schools, we shall refer further on.

OBJECTION AS TO THE NUMBER OF TEACHERS IN THE HIGH SCHOOLS.

Secondly, objection has been made to the number of teachers to be employed in the High Schools. On this point the Legislature has given no doubtful expression of its opinion. In the statute of 1853, as consolidated in 1859, it prescribed certain subjects of instruction for the High Schools, and declared that provision should be made for teaching these subjects according to a programme and general regulations prescribed by the Council of Public Instruction, and in a subsequent part of the Act, it specifically defined the duties of trustees, and distinctly declared that it should be "the duty of each High School Board [in making provision for teaching the prescribed subjects according to the programme and general regulation], to appoint the master and other teachers in such school, and to fix their salaries and prescribe their duties."

Each Board was also authorized "to appoint such other officers and servants as they shall judge expedient," &c.,—thus giving them a discretion in regard to the latter but none whatever in regard to "the masters and teachers," whom they were required by law to appoint in each High School.

It further requires them to apply "the moneys received" towards making up "the salaries of teachers" etc. (not "a teacher,") and it requires trustees, on the union of a High and Public School, to make "ample provision" for giving instruction to the pupils in the elementary English branches of the Public School department "by duly qualified English teachers." The Act of 1865 further provides for the settlement of all differences between trustees and "head masters and teachers" in regard to salary. As each school must have a head-master, (whose qualifications are prescribed), the "teachers" referred to in that statute must, in all cases, be the assistants provided for in the Act of 1859. Further, the Act of 1871 prescribed certain additional subjects to be taught in the High Schools, and provides that "the Council of Public Instruction shall have power to exempt any High School which shall not have the necessary funds to provide the necessary qualified teachers from the obligation to teach the German and French languages." Apart, therefore, from the provisions of the statute which (speaking of the duty of each High School Board) makes it obligatory on such Board to "appoint the master and other teachers in such school," the subjects themselves (which the Legislature has prescribed to be taught in each High School), require the full time of the head-master, and at the least that of one or more assistants to teach them to the pupils. The number of pupils attending the school is immaterial, as the same subjects (which are prescribed by the Legislature) and the same number of classes are required in each school according to the programme, whether the pupils in attendance be many or few.

AMPLE PROVISION NOW MADE BY THE LEGISLATURE FOR THE SUPPORT OF HIGH SCHOOLS.

Up to 1871, it was urged with some force that, while the Legislature required the High School Boards to do certain things, it left them powerless to provide the necessary means to defraying the expenses of doing so. This was doubtless true to some extent in past years, but in 1871 it left the Boards without a shadow of excuse on this ground. The statute of that year, as we have shewn, prescribed certain additional subjects of instruction for the High Schools, (which gave a symmetry and completeness to the course of study in them), but it also provided most liberally for enabling the trustees to support these schools and pay their teachers. Not only did it in that very year increase the High School grant from \$57,000 to

\$70,000, but it also required the county and city councils to provide by local assessment, and to furnish the trustees with \$35,000 more—making a total of \$105,000, or an average of \$1,000 for each High School!

Further, for the first time the Legislature authorized each High School Board to call upon the council or councils of the municipality or municipalities in which the High School was situated, to provide whatever additional sum it might require "for the school accommodation and maintenance" of the High School; and it made it the imperative duty of the council to provide these sums without question. While, therefore, the Legislature required each High School Board to provide for teaching "all the higher branches of an English and commercial [or classical] education," and to employ a head "master and teachers" to do so, it also (in the school legislation of 1871) provided the ample means (as we have shewn) of \$105,000, as a preliminary fund, at the rate of about \$30 per pupil, for the support of the High Schools.

THE TRUE PLACE OF THE HIGH SCHOOLS IN OUR NATIONAL SYSTEM OF EDUCATION.

Again, it has been urged that the Legislature has fixed the educational standard of our High Schools quite too "high"—that a lower grade if not a narrower range of subjects would be quite sufficient for the wants of the country, etc.; and that it is unreasonable to require High School Boards to bring these schools up to the prescribed Legislative standard, as laid down in the official programme.*

A more unwise and untenable objection could not have been urged. Those who do so look at the question from a purely local and narrow standard point. They forget that the fundamental principle involved in the adoption by the country of a complete "national system" of education, stands opposed to such views, and that a national system must of necessity leave no room for private or denominational efforts to supplement it, but must include within itself a systematic and complete gradation of schools from the lowest elementary school up to the university itself, without a missing link, or break in the chain. They either forget or ignore the fact that this is the theory—the very fundamental principle on which our Canadian "national system" of education is based; and that while the Legislature has strictly defined the limits and functions of each class of its national schools, it has most liberally provided in an ascending scale of remuneration for the support of each class.

Thus, it provides for the elementary public schools, and declares that they shall be free to every youth in the land. Next it provides specifically for a superior grade known as "High Schools," which shall form the connecting link between the elementary schools and the university, and declares that these schools shall teach such "higher" subjects, and such "higher" subjects only as it prescribes. Lastly, it sets apart a liberal portion of the public domain for the maintenance of a Provincial College and University (the functions of which are also defined by Parliament itself.)

These Institutions in their teaching are not allowed, nor do they dream of interfering with, or trenching on the domain of the High Schools, as do many High Schools on that of the Public Schools, even beyond that point which is allowed by the Council, (as is urged) as a matter of right and of expediency.

VAST DIFFERENCE IN THE RATIO OF THE GRANT TO HIGH AND PUBLIC SCHOOLS.

We will now contrast the liberality of the Legislature as shewn to the High and to the Public Schools. It has been often said that the Legislature is willing to do anything for the Public Schools, but is chary of its favours to the High Schools. This we will shew to be simply a mistake,—a popular error. The Legislature has indeed liberally fostered the Public Schools, and the policy of the Education Department in the adminis-

* The whole question as to the necessity for a more complete and extended programme of studies for our High and Public Schools is discussed at length in the last Report of the Chief Superintendent.

tration of the law has always been to stimulate local exertion, and to encourage a general interest in these "colleges of the people." In this matter success has signally crowned its efforts; and the Public Schools of to-day stand well in popular esteem, and our school system as a whole maintains a high reputation abroad. But in the matter of Legislative aid to the Public and to High Schools, the latter have immeasurably the advantage, proving that the favour shewn to them rather than to the Public Schools has been very marked and decided. Thus, while the Legislative grant to the Public Schools in 1872 was only *forty cents (40 cts.) per pupil*, it was within a fraction of *twenty dollars (\$20) per pupil* to the High Schools! Even with the addition to the Legislative grant of the prescribed municipal assessment, the Public Schools only received at the rate of *eighty cents (80 cts.) per pupil*, while the High Schools generally received within a trifle of *thirty dollars (\$30)* and several of them more; for as each High School is entitled by law to a minimum grant at the rate of at least *\$400 per annum*, no matter how small its average attendance may be, it has followed that some schools have received (including the county assessment) an aggregate sum of from *\$35 to even \$45 per pupil* in average attendance! We leave it to the judgment of any candid man, whether under these circumstances it is reasonable, just or fair to allow High Schools to do Public School work, and yet receive between thirty to forty times as much as the Public Schools receive for doing that work.

INEXPEDIENCY OF ALLOWING HIGH SCHOOLS TO ADMIT THEIR OWN PUPILS.

We have just shewn that for each pupil attending the Public Schools, the trustees of these schools are only allowed *eighty cents*, yet when the same pupil is admitted to a High School the board of such school is entitled according to the average attendance of that pupil, to an aggregate sum including the county assessment, varying from *\$30 up to \$45 per pupil*, although that pupil may be only in classes identical with those in the Public School which he had left! With such strong financial motives to withdraw pupils from the Public Schools and to force them into the High Schools, great efforts are of course made to admit as many as possible to these High Schools. Quite a number of the best schools, even in the face of this strong temptation to be lax in their standards of admission, have faithfully and conscientiously adhered to the requirements of the programme and regulations in the admission of their pupils. But others have not, and great injustice has, therefore, been done to that very class of superior schools which it is the wise policy of the country to foster and support. From a recent return on this subject, which has been ordered by (and which has been laid before) the House of Assembly, we learn that even in the standards of admission adopted in the various High Schools, the greatest diversity has existed. For instance (1) in some schools the pupils for admission were only examined in certain of the prescribed subjects; (2) the character, extent and value of the questions shewed great inequality; (3) in some the questions were written or printed, and in some they were *viva voce*; and (4) the percentage of the value of the answers assigned to the questions ranged from 33 to 80 per cent. The enormous number of 2,000 pupils passed into the High Schools as the result of these examinations!

As to the qualifications of the pupils admitted, and the character of the examination held, we quote from the return laid before the House of Assembly, the following Report on the subject from the Inspectors of High Schools. For obvious reasons we give no names:—

REPORT OF J. A. McLELLAN, ESQ., M.A., LL.B.

At School No. 1.—Found a class of about twenty in training for the entrance examination by the masters, who assured me that "all of them would be admitted on the following day." The reading of nearly all these twenty (whom the regular pupils hardly surpassed) was *very bad*. Pupils not familiar with common words—pronunciation atrocious—*violence* for *violence*; *turnt* for *torrent*; *genus* for *genius*; *laborisly* for *laboriously*, &c.

In *Grammar*, I gave the "candidates," "Few and short were the prayers we said." This sentence too difficult;—*e. g.*, "few a preposition gov. prayers;" "short a preposition, do.;" "were, a transitive verb gov. prayers;" *said* an intransitive verb, passive voice." None of the candidates could parse *said*; only 12 of *all school* (50) could solve question in subtraction of fractions; and only 8 could find cost of 5,250 lbs. coal at \$7 50 per ton of 2,000 lbs. You can imagine how much the "candidates" knew.

School No. 2.—The trustees of this school rejoice that the checks to entrance have been removed. 4 candidates for entrance, 20 pupils present. The examination showed that even with the "hard checks" to entrance which formerly existed, the pupils had not been stringently dealt with in their entrance examination.

School No. 3.—22 admitted; 79 on roll; about 60 present. The entrants did badly; *analysis* and parsing by *whole school* anything but good.

School No. 4.—72 admitted after my visit. I have not seen the papers. There were already admitted as high school pupils a large number who could not have passed (and cannot pass) a fair entrance examination.

School No. 5.—15 admitted; 61 on roll. The examination was better than some others, but much below what it should have been.

School No. 6.—19 admitted; 40 on roll. *Reading* very bad; history, do.; geography, do. 8 in *whole school* found the difference between $2,275\frac{5}{8}$ and $2,174\frac{11}{16}$. Judge what the entrants could do. *Grammar* was very bad.

School No. 7.—87 on roll; 38 admitted; nearly whole of senior public school division. Examination papers fair, but pupils not up to papers. Query, had the 38 been aided by teachers! *That has been done*. A year ago there were 28 pupils on roll, now 87. Even the old pupils did badly. I gave an exercise in grammar: "and first one universal shriek there rushed louder than the loud ocean, like a crash of echoing thunder." *All failed* in analysis; a large number failed in "*universal*," "*first*," "*shriek*," "*there*," "*like*."

School No. 8.—44 on roll; 8 admitted, not one of whom were qualified. 24 were present. *Reading* utterly bad; only 7 got subtraction question. *Grammar* was a poor performance, nearly all failed to parse *first* (see above), and *all* (in "and then *all* was hushed," &c.)—"universal is a noun, 3rd sing," "louder" too much for many, "ocean, noun, obj. case after rose," "*crash* noun obj. after rose," "*crash* noun, nom. case to was understood," etc., etc.

School No. 9.—36 on roll; about 30 to be admitted. These were already in high school. Parsing was an utter failure.—"shriek objective case governed by one," "*universal*, a verb in the possessive case," "*first*, a preposition governing one." I gave "few and short were," etc. It was too difficult for nearly whole school, certainly for all the candidates. A more deplorable exhibition of grammatical ignorance could not be imagined. This school was of course glad that restraints as to admission have been done away with. Only 3 in the school got above questions in subtraction.

School No. 10.—40 on roll, 23 of whom were admitted. A fair examination would have excluded 20 of the 23.

Schools 11, 12, 13, 14, 15.—Had the same examination. One question in grammar and one in arithmetic constituted the whole examination, *e. g.*, add $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, 1. No. 11 had no candidates for admission, probably because it was not a union school. No. 14 was held in check by its master, who is determined to admit none but qualified pupils. School 16 admitted 5, all far below the mark. No. 12 admitted 47, and has now on roll 188, about three times as many as it had a year and a-half ago.

School No. 17.—39 were on roll, (23 girls), 22 admitted. The trustees and master admitted that these were far below the legal standard, but "had to have two teachers, and must give them something to do; would soon work the juniors up, etc." The teacher gave "to love our enemies is a command given." "to" a preposition gov. noun "*love*;" to love an intransitive verbal noun;" "command, objective case, governed by *is*."

We must obey our rulers. "Must obey," intransitive verb, indicative mood, etc. "The boy with long black hair was found in the wood." All the entrants failed to parse boy; "hair" is a verb, third person singular, objective case, governed by "with." *John runs swiftly.* "John," a verb, third person singular, etc. None of these entrants could do the elementary questions above mentioned; many of them could not get through the multiplication table.

School No. 18.—36 were on the roll, 25 admitted. Only 7 of the whole school got the subtraction question. The admitted pupils were far below the legal standard; arithmetic and grammar were utterly bad.

School No. 19.—38 were on roll, 20 admitted. There was an utter failure by the entrants, and by whole school: "few and short," etc. was altogether too difficult—bad as No. 17. Most of pupils were mere children, requiring at least a *two years'* course in a good Public School.

The above facts will enable you to form an opinion of the disastrous effects upon the High Schools, which have been the too certain results of the removal of all checks upon the admission of pupils. When it is considered that through the laxity of the old system of admitting pupils to the Grammar Schools, a very large number of totally unqualified pupils were found in the High Schools, even after the new law had been in operation for a year; and that the number of the unqualified pupils has been very largely increased during the present half year, in consequence of the examinations for entrance being free from almost all control by disinterested parties, it can be readily inferred that many of the schools have been so far degraded that it is simply a perversion of language to call them High Schools; and that unless the serious evil be promptly and effectually remedied, we shall soon have a High School system only in name. Some of the school authorities—the masters particularly—have acted nobly. They have refused to take advantage of the powers unhappily placed in their hands, and preferring a high standing for their schools to any merely pecuniary advantages, have exacted a high standard of candidates for entrance. But the general tendency is towards degradation. Some of the best masters have informed me that they had resisted, *with great difficulty*, the pressure brought to bear upon them, to admit unqualified pupils in order to increase the numbers, and as a consequence, the allowance from the public funds. If I might venture to offer any suggestions for the improvement of the High Schools, I should say:—(1) Let there be a *uniform* examination for entrance conducted by an *independent* examiner (or examiners). (2) Let there be two masters for even the smallest school, and the masters to be increased, one when pupils reach a certain number. (3) Something more is required than a University Degree to qualify Head Masters—many innocents fresh from College Halls in charge of High Schools—many with little scholarship, and more with less experience. I presume but few of our Head Masters could take a "First A" under the new law. Let every High School master be required to, in addition to his degree, hold a First Class Provincial Certificate, or to teach a year (or so) as assistant master, before he becomes qualified for a High School mastership. It is insisted that a person shall have a Second Class Provincial Certificate to qualify for a First Class; why should not a candidate for High School Certificate, be required to hold the highest grade of Public School Certificate, in order to qualify for the highest educational positions?

The subjects generally taught in the High Schools are identical (except a smattering in most cases, of classics and French) with those required in the examination for First Provincial Certificates; and I unhesitatingly assert (and my notes will prove it) that a *great majority* of our University Graduates are not as well qualified to teach these subjects, as public school teachers holding "1st A" Certificate under the new law. And yet a great many of these men prate about the "indignity" of having Public School Inspectors associated with them in the examining board on terms of perfect equality! A great many of the High Schools of the country would, under present cir-

cumstances, be far better off, more rapidly "worked up" if under the charge of First Class Provincial Teachers.

(4.) Let the number of High Schools be limited—not too rapidly increased in number. Under present circumstances every little village in the country, even though it has not had the spirit and liberality to keep up a *decent* Public School, must have its "High" School, especially since "*it pays the authors of such young efforts*" to "promote higher education," are sure of at least \$600 a year, and "that will pay the High School Master"—i. e., a master to do a *low grade* Public School work, hence

(5.) I would do away with the \$400 minimum, or in the classification of schools let those that fall before a certain standard receive no Government aid, and die a deserved death, or let schools be established according to population. Say one school to every 15,000 or 20,000 inhabitants. *Two good schools* in a county would be of infinitely greater benefit than half-a-dozen poor ones.

(6.) Let "*union*" schools be no more. I am more and more convinced that there should be a total separation of the High and the Public School.

(7.) *Coll. Institutes*, now are only High Schools with larger attendance of pupils than in ordinary schools. If continued, there ought to be regulations as to number and qualifications of masters. Imagine a certain Collegiate Institute with only *four* masters doing High School (or College) work for 188 pupils, etc.

As at present constituted, Collegiate Institutes seem to be not in harmony with our High School system—many places, which have "populous" union schools are ambitious to become Institutes, etc.

(8.) The County Councils should be compelled by law to carry out its wise design.

REPORT OF THE LATE REV. J. G. MACKENZIE, M.A.

[As regards the *Parsing*, it may be well to state that for *Reading* the "Trial Scene in the Merchant of Venice" was selected; and, for convenience sake, the italic words in the following—no very difficult test certainly—were given to the Juniors recently admitted to the Schools.]

1. "Give me your hand! Come you from old Bellario?"

2. "Are you acquainted with the difference *that* holds this present question in the Court?"

3. "*Which* is the Merchant here?"

4. "Shylock is my *name*."

5. "It is *twice* blessed?"

School No. 20.—Signal failure in *dictation*.

School No. 21.—12 admitted; 2 only at all satisfactory in *spelling*. Almost everything in *grammar* missed.

School No. 22.—18 admitted. I question whether I should have sanctioned the admission of one-half of these. *Spelling* and *parsing* both deficient. *Dictation* amongst the worst I have had. Everything in *parsing* missed except, "Give me," and "*twice*" by one; one only could give the principal parts of "to flow."

School No. 23.—6 admitted; 3 below 50% in arithmetic, and 1 in *grammar*. *Dictation* very poor. Next to nothing done for me in *parsing*. One only could give mood and tense of "Come" in "Come you," &c. None knew when "*that*" is used as a relative. One only could give principal parts of "to flow."

School No. 24.—6 admitted; general failure both in *spelling* and *parsing*.

School No. 25.—14 admitted; Public School Inspector not present. Questions prepared by Chairman and head master alone.

School No. 26.—17 admitted; 11 of these were present when I made my inspection. I found these, with some two or three exceptions, amazingly weak in *arithmetic*. I required them to give the *parsing* of the following simple sentence in writing:—"Our earth is a planet of the solar system." 6 missed the predicate nominative; one considered our a preposition; is was treated in the same way by another.

School No. 27.—19 admitted ; 16 present at inspection. Dictation, with one very creditable exception, quite poor ; in several instances, indescribably bad.

School No. 28 (a Collegiate Institute.)—The deficiencies of the "entrance" pupils in this case took me much by surprise. 25 were present at the inspection, and were subjected in the first instance to an oral examination in parsing, with the exception of the relative "that" everything was missed except by some two or three. I then tried them with written work, the result being not much more satisfactory. Arithmetic also was weak. So glaring were the deficiencies of these pupils that one of the masters confessed they were the worst of the kind they had ever had.

Other cases might be cited, showing how very necessary it is that High School Inspectors' veto should be maintained.

PREPARATORY CLASSES IN HIGH SCHOOLS.

In the last number of this *Journal* we published a strong protest of the Ottawa Public School Board sent to the Lieutenant-Governor, against the establishment of a Preparatory School in High Schools or Collegiate Institutes. Such classes are clearly unauthorized under the High School Act.

It is a principle of law that no corporation can exceed the powers conferred upon it by the Legislature, or other competent authority. Now the Act under which the High School Board is constituted makes it the duty of that Board "to make provision for giving to both male and female pupils * * * instruction in *all the higher branches* of a practical English and commercial education * * * according to a programme, rules and regulations, prescribed by the Council of Public Instruction," etc. The Act gives no other authority on this point ; nor does it even give any authority to provide for giving instruction in the "higher" ones, in accordance with a prescribed programme. The law, further, only provides for the admission of pupils to the High School on their coming up to a certain standard, fixed by the Council of Public Instruction. The statute and regulations provide also for the employment (during their whole time), and payment of teachers to perform the necessary duties under the Act, and declares that "no High School shall receive any portion of the grant which is not conducted according to law and the regulations."

The Education Department has invariably resisted the establishment of preparatory classes in High Schools ; and under no circumstances has it consented to allow any of the time of the masters or teachers of a High School to be taken from their regular classes, and given to the teaching of an unauthorized private or preparatory classes in the school.

The Legislature has made ample provision for the establishment and maintenance of elementary classes in the Public Schools, but it has restricted the High Schools to the teaching of the "*higher*" branches of an English and commercial education."

ATTACKS ON THE EDUCATION DEPARTMENT.

We have already in this paper met and exposed the injustice of one class of attacks upon the Education Department in connection with the apportionments to High Schools. Another one equally unjust and unfair has appeared in the *Canadian Monthly* magazine for January. It is as follows :—

"To what do we attribute the failure in framing the laws ? to the neglect of the subject by Parliament and its *mismanagement* by the Education Department. The various measures proposed by the Chief Superintendent have *all betrayed a certain crudity and lack of precision* which have been fatal to their success. The head of the Education Department * * * has often, I fear, been led astray by his hobbies and by the advice of incompetent subordinates * * * the clerical element (in the Council of Public Instruction) has an unfairly strong representation in the Council, *while the lay element is illiterate* * * * it does not consist of men able to advise Dr. Ryerson and it is therefore no check at all on *bureaucratic mismanagement*."

The anonymous writer of these unjust and improper remarks has not ventured to offer a single proof of their correctness.

He sets up a man of straw for the pleasure of showing his skill in knocking him down. For instance, he speaks of the Council of Public Instruction giving the Chief Superintendent "*advice*" in framing his educational measures, when in point of fact not a single member of the Council has ever offered any advice or given any opinion to him on the subject ! Their functions are entirely different and are prescribed by statute. Then again, any one at all acquainted with the processes of legislation knows how well nigh impossible it is to get a measure through the House without mutilation. In the case of the School Bills it was stated that the alleged mutilation which the measures received in 1860 and 1871, were so many that they could not be "recognized." No wonder, then, that after thus running the gauntlet they should betray "*a certain crudity and lack of precision*." A dozen men with different views "*amending*" a measure before the House—(the more symmetrical it might be in its original form the worse for it)—would soon reduce it to a mass of "*crudity*" and destroy whatever "*precision*" any part of it might possess. This requires no demonstration, and yet the Chief Superintendent is made responsible for all the "*crudities*" and "*lack of precision*" which might be embodied in a measure under such circumstances !

In speaking of the application of the elective principle to the Council of Public Instruction, a "Head Master" gives expression to the following sensible views in which we heartily coincide :—

"It would, in my opinion, be exceedingly injurious to place a teacher engaged in the exercise of his profession in the Council. He would have a voice in the appointment of his own inspectors ; would have access to the private reports of the inspectors, and would be in a position to obtain information which might give his school an unfair advantage over others, and he might assist in passing measures which would be for his personal interest."

2. SUGGESTIONS FOR THE IMPROVEMENT OF THE HIGH SCHOOLS.

In regard to this point we cannot do better than append the following suggestions on the subject from the Chief Superintendent's last report. He recommends :—

1. That the standard of admission to the High Schools and Collegiate Institutes be uniform throughout the Province.
2. That no pupils be admitted to the High Schools except on satisfactorily passing a written examination, and obtaining a minimum of fifty per cent. of the value of the papers.
3. That suitable accommodation be provided, in all cases, for the High Schools.
4. That the programme of studies and limit table, when finally prepared and authorized, be strictly adhered to, except by permission obtained upon the report and recommendation of the Inspector.
5. That at least two competent masters be employed in every High School.
6. That before the principle of "payment by results" be applied to High Schools, their status and classification (as a starting point,) be ascertained by a written examination of the pupils in one or more of the classes.
7. That in all cases the Council of Public Instruction shall have the right, through its inspectors, to determine whether the answers given in a written examination come up or not to the minimum standard.
8. That an additional High School Inspector be appointed, in order that effect may be given to the new system of payment by results ; and that the three inspectors be authorized and required, in places where there are High Schools or Collegiate Institutes, to enquire into the condition and efficiency, of the Public and Separate Schools, which are entitled to prepare and send pupils to the High Schools or Collegiate Institutes.
9. That masters of High Schools should, before appointment, be required to furnish some evidence of a knowledge of the art of teaching.

3. SYSTEM OF PAYMENT BY RESULTS.

(To the Editor of the Globe)

SIR,—In reply to a letter signed "Fair Play," in Saturday's *Globe*, I desire to say that there is not a shadow of foundation for "Fair Play's" unjust statement that the Education Department is about "springing a sudden change upon High School teachers in the middle of the year," in the adoption of a system of "payment by results." The Department has not "concluded" to do anything of the kind, nor has it ever given the slightest intimation of its intentions on the subject, except to the effect that full and ample notice will be given to all parties concerned before the system is put in force.

The system of "payment by results"—the principle of which is the only just and equitable mode of distributing the High School grant—has been maintained by the Department for years. It was under consideration in 1865; and the principle would have been incorporated in the Grammar School Act of 1865, had it not been thought that the important reform effected by the Bill of that year in the mode of paying the grant to High Schools, was about as far as it was prudent to go at that time. I was deputed by the Chief Superintendent to take charge of the Bill at Quebec in that year, and I took pains to prepare a scheme on which to base a system of "payment by results" from the English education reports and other information which I obtained in the Parliamentary library. But the Chief Superintendent thought it on the whole advisable to defer its adoption for the reason which I have given. The matter was not lost sight of, however, and in that same year (1865) Mr. (now Bishop) Fraser, who was in Canada at that time as an English Education Commissioner, was consulted on the subject. In 1868 the matter was referred to Rev. Prof. Young, then Inspector of Schools, for his report on

it, which he made in 1869. In 1871, the principle was adopted and embodied in the Act of that year. It involves payments to High Schools according—

1. To the average attendance of pupils;
2. Their proficiency in the various branches of study;
3. The length of time each High School is kept open as compared with other High Schools.

As it was clearly impossible equitably to apply this new principle of "payment by results" until a classification of the High Schools was made, the inspectors were requested to make such classification and report the result to the Chief Superintendent. This was done, but it is still felt to be impossible to do full justice to each of the schools until the whole of the pupils in them are subjected to a uniform test examination on questions prepared and printed for that purpose. With that view further legislation will be required before the new system can be adopted, and this is proposed and recommended in the Chief Superintendent's last report. On page 97 of that report, among nine recommendations relating to High Schools, is the following, and it is the only authoritative opinion which the Department has given on the subject:—

"6. That, before the principle of "payment by results" be applied to High Schools, their status and classification (as a starting point) be ascertained by a written examination of the pupils in one or more, if not all, of the classes."

Such a recommendation does not look like "springing a sudden change upon High School teachers."

Your obedient servant,
J. GEORGE HODGINS,
Deputy Superintendent.

Toronto, March 8, 1873.

[NOTE.—For List of Apportionments to High Schools in 1872, see page 29.]

II. IMPROVEMENT OF SCHOOL HOUSE ARCHITECTURE.

Country schools generally need accommodations for from forty to eighty pupils. In the ground plan given below sixty seats are provided. The room is thirty-four by thirty-eight feet, and by slight changes in size it may be contracted or expanded. By adding three feet to the length space is given for ten additional seats, and by making the building four feet narrower there would still be sufficient room for four rows of desks, accommodating forty-eight pupils.

In this design two entrances are provided in front, each of which opens into a room which is at once an entry-way and a lobby for clothes. The space between the two entry-ways can be used for recitations, and a room may be finished in the basement, or added to the rear for the storing of fuel.

The design is well adapted to sections in which the attendance is large during one portion of the year, and small at other times. The recitation-room gives an opportunity for the employment of an extra teacher, as required by law, when the school has an average attendance of over fifty pupils. The front and back walls of the school-room, between the two doors, should be occupied by black boards. The stoves are placed in the front corners of the room, and the ventilators in the opposite corners. This room is supplied with two back entrances opening respectively into the boys' and the girls' play-grounds.

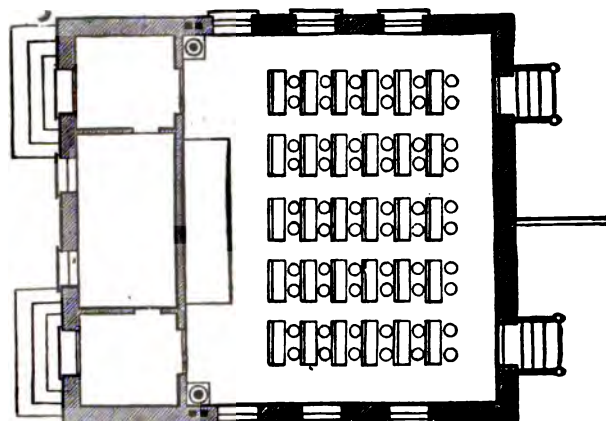
ELEVATION No. 5.—This elevation represents a plain but neat and substantial building of wood. The roof has the plain wide, projecting cornice and eaves which protect the walls of the building,



Elevation 5.



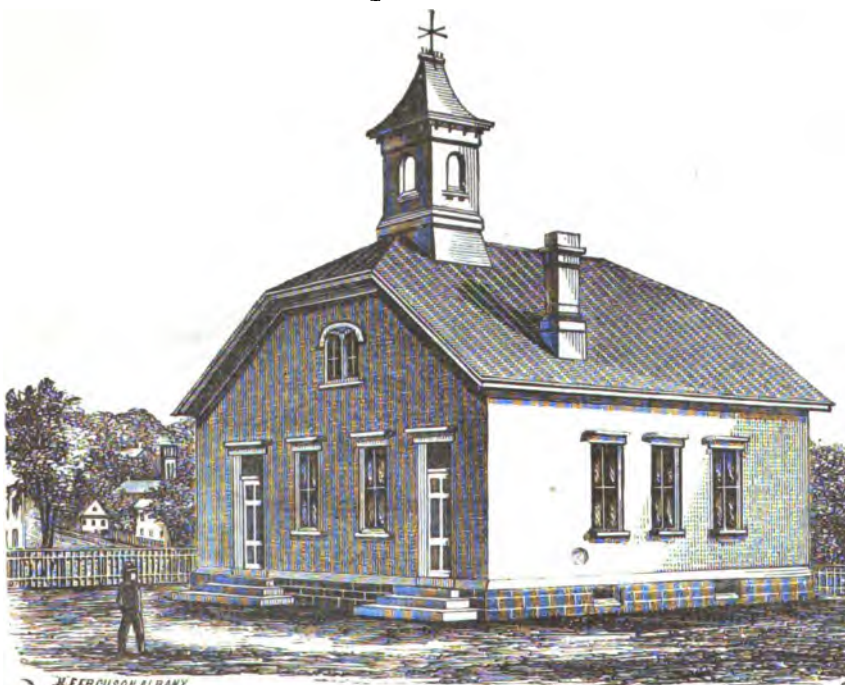
and at the same time give it an appearance of comfort and solidity. The finish may be of battens, as in the engraving, or it may be of clapboards, or substantially the same building may be made of brick. This elevation is represented as standing on a hill-side which slopes downward and backward from the house. In situations of this kind the back entrance may be omitted, and the basement may be fitted up for a wood-room. The nearly square form of this elevation, the perfectly plain finish, the arrangement of everything beneath a single roof, and the entire lack of ornamentation, render this one of the cheapest buildings which can be erected. If anything cheaper is attempted it will be by the use of poor materials, by scrimping just proportions, or by diminishing



GROUND PLAN.



Elevation 6.



Elevation 7.

the size, so as to deprive pupils of their due proportion of pure air, and of their freedom of movement. In either case the interests of the school will suffer, and present saving will be effected at a fearful future cost to the children.

ELEVATION No. 6.—This is another very plain and cheap structure of wood, finished with clapboards. The bell-tower gives dignity to the building, and should not be omitted. The roof is the ordinary pitch and may be covered with slate or shingles.

In finishing wood structures in this manner, the clapboards should be laid with but little exposure to the weather. This arrangement gives tighter joints, and makes the building much warmer. In some sections buildings designed for habitation are covered with a coating of tarred paper before the siding is laid, and this renders them almost air-tight. This covering is recommended for school-houses built in our northern climate, and in exposed locations. By its use the school-room will be made more comfortable, and a large saving in fuel will be made.

ELEVATION No. 7.—This building, in form, is but a slight variation from No. 6. The corners of the gables have been cut off, which is a mistake, and the form of the cupola changed; but otherwise it is substantially the same. The finish in the engraving is made to represent brick, but wood or stone may be used.

In the erection of brick walls care must be taken to have the walls hollow, or formed so that a space of air may be confined within them, otherwise the walls will be damp and the room unhealthy. The precaution should also be taken to have the foundation laid in hydraulic cement as high as the water-table to prevent the moisture of the ground from permeating the entire walls of the building. The effect of the moisture is not only deleterious to health, but combined with the action of frost, it has a tendency to crack and destroy the walls of the building.

2. ENGLISH HINTS ON SCHOOL-BUILDING.

Before a school-room is planned,—and the observation applies equally to alterations in the internal fittings of an existing school-room,—the number of children who are likely to occupy it; the number of classes into which they ought to be grouped; whether the school should be "mixed," or the boys and girls taught in different rooms; are points that require to be carefully considered and determined, in order that the arrangements of the school may be designed accordingly.

Every class, when in operation, requires a separate teacher, be it only a monitor acting for the hour. Without some such provision it is impossible to keep all the children in a school actively employed at the same time.

The apprenticeship of pupil teachers, therefore, is merely an improved method of meeting what is, under any circumstances, a necessity of the case; and where such assistants are maintained at the public expense, it becomes of increased importance to furnish them with all the mechanical appliances that have been found by experience to be the best calculated to give effect to their services.

The main end to be attained is the concentration of the attention of the teacher upon his own separate class, and of the class upon its teacher, to the exclusion of distracting sounds and objects, and without obstruction to the head master's power of superintending the whole of the classes and their teachers. This concentration would be effected most completely if each teacher held his class in a separate room; but such an arrangement would be inconsistent with a proper superintendence, and would be open to other objections. The common school-room should, therefore, be planned and fitted to realise, as nearly as may be, the combined advantages of isolation and of superintendence, without destroying its use for such purposes as may require a large apartment. *The best shape is an oblong.* Groups of benches and desks should be arranged along one of the walls. Each group should be divided from the adjacent group or groups by an alley in which a light curtain can be drawn forward or back. Each class, when seated in a group of desks, can thus be isolated on its sides from the rest of the school, its teachers standing in front of it, where the vacant floor allows him to place his easel for the suspension of diagrams and the use of the black board, or to draw out the children occasionally from their desks and to instruct them standing, for the sake of relief by change of position. The seats at the desks and the vacant floor in front of each group are both needed, and should therefore be allowed for in calculating the space requisite for each class.

The Committee of Council do not recommend that the benches and desks should be immovably fixed to the floor in any schools. They ought to be so constructed as to admit of being readily removed when necessary, but not so as to be easily pushed out of place by accident, or to be shaken by the movements of the children when seated at them.

By drawing back the curtain between two groups of desks, the principal teacher can combine two classes into one for the purpose of a gallery lesson; or a gallery (doubling the depth of benches, and omitting desks), may be substituted for one of the groups. For simultaneous instruction, such a gallery is better than the combination of two groups by the withdrawal of the intermediate curtain; because the combined length of the two groups (if more than fifteen feet) is greater than will allow the teacher to command at a glance all the children sitting in the same line. It is advisable, therefore, always to provide a gallery; but this is best placed in a class-room.

The master of a school should never be allowed to organise it so as to provide for carrying out the entire business of instruction without his own direct intervention in giving the lessons. He ought, as a rule, to have one or more of the classes (to be varied from time to time) in a group, or in the gallery under his own immediate charge. He must indeed at times leave himself at liberty to observe the manner in which his assistants or apprentices teach, and to watch the collective working of his school. But his duties will be very ill-performed if (what is called) general superintendence forms the sum, or principal part of them.

The reasons of the following rules will be readily inferred from these preliminary explanations, and the annexed plans have been prepared to illustrate the rules of the board as regards the arrangement of the buildings and the internal fittings of schools and class-rooms.

3. RULES IN PLANNING A SCHOOL.

(a) In planning a school-room, it must be borne in mind that the capacity of the room, and the number of children it can accommodate, depends not merely on its area, but on its shape, and the positions of the doors and fireplaces.

(b) The best width for a school-room intended to accommodate any number of children between 48 and 144 is from 16 to 20 feet. This gives sufficient space for each group of benches and desks to be ranged three rows deep along one wall, for the teachers to stand at a proper distance from their classes, and for the classes to be drawn out, when necessary, in front of the desks, around the master or pupil teachers. (*No additional accommodation being gained by greater width in the room, the cost of such an increase in the dimensions is thrown away.*)

(c) A school not receiving infants should generally be divided into at least four classes. (*The varying capacities of children between seven and thirteen years old will be found to require at least thus much subdivision.*)

(d) Benches and desks, graduated according to the ages of the children, should be provided for all the scholars in actual attendance and therefore a school-room should contain at least four groups.

(e.) An allowance of 18 inches on each desk and bench will suffice for the junior classes, but not less than 22 inches for the senior classes; otherwise they may be cramped in writing.

The length therefore of each group should be some multiple of 18 or 22 inches respectively.

Thus, at 18 inches per child,

A group 6 ft. 0 in. long will accommodate	4	} Children in a row.
" 7 6 "	5	
" 9 0 "	6	
" 10 6 "	7	
" 12 0 "	8	

At 22 inches per child,

A group 7 ft. 4 in. long will accommodate	4
" 9 2 "	5
" 11 0 "	6

In the annexed plans 18 inches have been taken as the allowance per child. The withdrawal of a child from each row of this dimension will practically answer the purposes of the other dimensions.

(f.) The desks should be either quite flat or *very slightly* inclined. The objections to the inclined desk are, that pencils, pens, &c., are constantly slipping from it, and that it cannot be conveniently used as a table. The objection to the flat desk is, that it has a tendency to make the children stoop. A raised ledge in front of a desk interferes with the arm in writing.

(g.) As a general rule no benches and desks should be more than 12 feet long; and no group should contain more than three rows of benches and desks (*because in proportion as the depth is increased, the teacher must raise his voice to a higher pitch; and this becomes exhausting to himself, while at the same time it adds inconveniently to the general noise.*)

(h.) Each group of desks should be separated from the contiguous group, either by an alley 18 inches wide for the passage of the children, or by a space of 3 inches sufficient for drawing and withdrawing the curtains.

(i.) The curtains when drawn should not project more than 4 inches in front of the foremost desk. An alley should never be placed in the centre of a group or gallery, and the groups should never be broken by the intervention of doors and fire-places.

(j.) Where the number of children to be accommodated is too great for them to be arranged in five, or at most six, groups, an additional school-room should be built, and placed under the charge of an additional teacher, who may, however, be subordinate to the head master.

1. The walls of every school-room and class-room, if *ceiled at the level of the wall-plate*, must be at least 12 feet high from the level of the floor to the ceiling; and if the area contain more than 360 superficial square feet, 13 feet, and if more than 600, then 14 feet.

2. The walls of every school-room and class-room, if *ceiled to the rafters, and collar beam*, must be at least 11 feet high from the floor to the wall-plate, and at least, 14 feet to the ceiling across the collar beam.

3. The whole of the external walls of the school and residence if of brick, must be at least one brick and a half in thickness; and if of stone, at least 20 inches in thickness.

4. The doors and fireplaces in school-rooms for children above seven years of age must be so placed as to allow the whole of one side of the school-room being left free for the groups of benches and desks.

5. There must be no opening wider than an ordinary doorway between an infants' and any other school-room, as it is necessary to stop the sound of the infant teaching.

6. An infant school should always be on the ground floor and if exceeding 80 children in number, should have two galleries of unequal size, and a small group of benches and desks for the occasional use of the elder infants.

No infant gallery should hold more than 80 or 90 infants.

7. The width of a boys' or girls' school-room must not exceed 20 feet.

The width of an infant school-room need not be so restricted.

8. The class-rooms should never be passage-rooms from one part of the building to another, nor from the school-rooms to the playground or yard.

9. The class-rooms should be on the same level as the school-room.

10. The class-rooms should be fitted up with a gallery placed at right angles with the window.

11. Framed wood partitions are not allowed between school-rooms and class-rooms. They must be separated by lath and plaster partition or a wall.

12. Infants should never be taught in the same room with older

children, as the noise and the training of the infants disturb and injuriously affect the discipline and instruction of the older children.

13. The windows should be of glass set in wood or iron casements. Lead lights and diamond panes are not allowed.

14. The sills of the windows should be placed not less than 4 feet above the floor.

15. A large portion of each window should be made to open.

16. The doors and passages from the school-room to the privies must be separate for the two sexes. So must also be the privies themselves. If they cannot be constructed entirely apart from each other, there should be between them a dust-bin, or other sufficient obstacle to sound as well as sight.

[Water closets can now be provided at a very reduced cost, and they may be introduced with advantage wherever there is a sufficient supply of water to cleanse them thoroughly. Great attention must be paid to the drainage of them. Earthen pipes measuring 4 or 6 inches in diameter, cemented at the joints, glazed and trapped are the best for this purpose.

Earth-closets are also frequently used with success.]

17. The privies must be subdivided, having a door and light to each subdivision.

18. The children must not have to pass in front of the residence on their way to their offices.

19. The Residence for the Master or Mistress should contain a parlour, a kitchen, a scullery and three bed-rooms; and the small-est dimensions which their Lordships can approve are—

SUPERFICIAL AREA.

(a) For the parlour 12 ft. by 12 ft.

(b) " " kitchen 12 ft. by 10 ft.

(c) " " One of the bed-rooms 12 ft. by 10 ft.

(d) " " Two other bed-rooms 9 ft. by 8 ft.

(e) 8 ft. in height to wall-plate.

(f) 8 ft. if ceiled at wall-plate, or 7 ft. to wall-plate, and 9 ft. to ceiling.

20. The residence must be planned so that the staircase should be immediately accessible from an entrance-lobby, and from the parlour, kitchen, and each bed-room, without making a passage of any room.

21. Each bed-room must be on the upper story, and must have a fireplace.

22. The parlour must not open directly into the kitchen or scullery.

23. There must be no internal communication between the residence and the school.

24. There must be a separate and distinct yard, with offices for the residence.

25. The porch must be external to the school-room.

26. Iron or wooden buildings cannot be approved.

27. An infants' school must have a play-ground attached to it.

28. In the case of a mixed school there must be separate play-grounds for the boys and girls.

29. The play-ground should be properly levelled, drained, and enclosed.

III. Papers on Seating, Ventilation, etc.

1. MISTAKE IN SEATING CHILDREN IN A SCHOOL-ROOM.

A great mistake has been made in some school-houses by seating them in such a way as to have all the pupils in the room face the windows. Such an arrangement cannot be otherwise than injurious to the eyes of the pupils, as the strong light is constantly shining into them. Pupils should always be seated with their backs or sides to the windows. There should be no windows in front of them.

2. SIMPLEST PLAN OF VENTILATING SCHOOL-ROOMS.

The simplest plan for ventilating school-rooms where stoves are used is to commence to build the chimney on the floor, building a small fireplace and hearth. Let the fireplace be so built as to receive a register instead of an ordinary screen. This should be so set as to be easily removed when necessary. Place the stove in one corner of the room; it should be furnished with a hollow drum; into this a tin tube of the size of the opening in the drum should be inserted, coming from the outside of the house. This tube should have a damper, by means of which the air from without can be shut off when desired. Let the stove-pipes pass from the stoves to the centre of the room, and then to the chimney in the back part of the room.

3. NECESSITY FOR TEACHING THE ELEMENTS OF NATURAL SCIENCE.—WARMTH AND VENTILATION.

Everybody must sincerely hope that the increased attention given to natural science in the schools and colleges of the present day will tend to the removal of ignorance on some subjects of every day importance as to which, it cannot be concealed, a great deal of misconception has hitherto existed. It is perfectly astonishing how much discomfort and worse than discomfort is often put up with, simply because the rudiments of natural philosophy or some of the most elementary principles of hygiene are unknown or misunderstood. And without some grounding in the elements of physical science, people are apt to be harmed rather than benefited by the hints they get from health magazines and the like. The indifference which results from ignorance is in some cases much preferable to an attempt to follow advice ill comprehended. A curious example of this we notice in recent English papers. Mr. Rawlinson, a gentleman of much experience in architectural matters, some time ago, addressed a letter to the *Times*, in which he recommended the admission of fresh air into houses directly from the outside, alleging that manufactured air can never be fresh air, and that therefore all stoves, hot water apparatus, or other modes of warming houses by close stove flues and pipes, manufacturing and pouring in artificially warmed air, cause offensive sensations, and to delicate constitutions prove unwholesome. "Air," he added, "is never so fresh as when it comes into a house or room direct; there is some deleterious property in flues which takes the life out of the air passed through." This was taken to mean a recommendation of open windows in all weathers, with a use of shawls and topcoats indoors for those who feel cold. A few days after his letter appeared, Mr. Rawlinson calling upon a lady found her sitting with a French window wide open, "looking anything but comfortable," and she welcomed him with a faint smile, saying, "See, Mr. Rawlinson, I am following your advice." Another lady wrote from the north of Scotland to a friend that she was "suffering from sitting with open windows, à la Rawlinson." A third wrote from Liverpool, "Must I understand from your letter that you have ceased to warm your once comfortable house, and sit in your top coat with the window open? If so, I do not agree with you."

Finding that he had been misunderstood, Mr. Rawlinson, in a later communication, endeavours to be more explicit, and, to illustrate his meaning, describes his own house and the appliances which exist for warmth and ventilation. His dining-room and drawing-room each contain about 5,500 cubic feet of space, and the doors are nine feet high, by four feet wide. The bedroom and dressing room contain about 6,700 cubic feet. These rooms are warmed by ordinary open fire-places. The basement, entrance hall, and staircase are warmed by hot water apparatus. The dining and drawing room doors are unusually large, for the purpose of facilitating room ventilation, the swing of so large a door moving a surface area of 36 square feet and the cube of the entire room. Then, there are means of ventilation in the basement at eight points beneath the floors, the inlet in each case being through charcoal strainers. The subsoil is covered with concrete, the sleeper blocks are vitreous earthenware, the sleeper joists are sound old ship timbers, and there is a vitreous damp-proof course above the footings in all the walls. The windows, when the weather admits of it, are opened at top and bottom. "A fire in my bed room," Mr. Rawlinson adds, "is very seldom lighted, as I find by experience that a low night temperature in a bedroom better fits me to endure a low external temperature through the day. I clothe warmly, avoid draughts, and strive to keep my sitting-room at or about 65 degrees Fahrenheit; and if, during frost, I feel roasted on one side and frozen on the other side, I sit in a top coat, but not with an open window."

These remarks apply of course to the more expensive class of houses, for strange to say, ventilation is a matter which has received very little attention in many English residences of the most costly construction. Everybody remembers the outcry occasioned at the time of the Prince of Wales' illness, the fever being traced to the foul drains and ill ventilation of the noble mansion at which he had been making a visit. Mr. Rawlinson gives a number of instances of similar neglect. In one case the occupants of a beautifully situated country mansion, after much sickness and death among their number, left the house in despair. Their successors shared the same fate, and it was not till the costly edifice, with upwards of 600 acres of land, had been sold "a great bargain," that the purchaser on examination found the entire basement one vast cess-pit of corrupt and corrupting matter, tainting air and water alike. The cesspits and cesspools were emptied and filled in with quick lime, the large sewers and foul drains, with the foul subsoil, were removed, and the entire area covered with quick lime concrete. The cost was £1,100, and a new and pure water supply was obtained at a cost of £1,500, the unhealthiness of the house being thereby

completely cured, and the purchaser left to rejoice over his bargain. It appears therefore that even wealth has not been able to secure exemption from the evils of bad ventilation and drainage. Science must come to the aid of money. The effectual manner in which it is possible to do the work when both are combined is attested by Mr. Rawlinson, when he says that gaols are about the best modern examples of artificial warming and ventilation. They are, he says, the only residences he knows of which a man can inhabit, where sewerage, drainage, water supply, warming, and ventilation are at the highest point of perfection. They are incomparably better in these means of health and comfort than many palaces, noblemen's mansions, London clubs, London West-end houses, or than town and country cottages. But there can be no difficulty in agreeing with him that there are no valid reasons why every dwelling place, from a palace to a cottage, should not be as comfortable and as wholesome as a prison. Similar knowledge and intelligence in design and execution, with similar intelligence and care in management, would produce similar results in honest men's houses. There is, however, one practical difficulty in the way of such ventilation as Mr. Rawlinson recommends. It is opposed to economy of fuel, and very expensive, especially in view of the constant increase in the price of coal and wood. The "cheerful fire" in the old English fireplace, so celebrated in song and story, and an admirable ventilator, would be much commoner than it is but for the fact that such a fireplace will require three times as much fuel as a modern grate or stove. In our severe climate the objection to open windows and open fireplaces on the score of economy is still stronger than in England. As an offset to this, however, smaller openings in cold weather suffice to admit all the air required, and with care and attention a great deal may be done in the severest weather to keep the air of the house healthful without sacrificing warmth. But to do this discreetly, some practical knowledge of the subject is necessary, and this brings us back to the hope we expressed at the outset, that so necessary and important a part of education may receive the attention to which it is entitled. With a thorough understanding of general principles, every one will soon learn to regulate such matters for himself, and architects will be forced to construct dwellings in such a manner as to conduce to the health and comfort of the inmates.—*Mont. Gazette.*

4. PLANT TREES.

The Gold Hill, Nevada, *Daily News*, says: "In various parts of the country efforts are making to stimulate the cultivation of forest trees, and to check the reckless and wasteful destruction of woods for which Americans have been distinguished. California has engaged a professional arboriculturist, at a salary of \$15,000 a year, to superintend the selection and planting of trees in that State; and if the man is a master of his business, the money paid to him will be well invested. The legislatures of several States are moving in this matter, which commends itself to the favourable consideration of every practical mind."

IV. Papers on Practical Education.

1. TEACHING FROM REAL OBJECTS.

Much has been written within the past few years on the best methods of teaching the younger class of scholars, and nothing has contributed more to improve those methods than the introduction into the school-room of material objects, to be carefully examined and subsequently described. This exercise has been carried to a greater extent in the juvenile schools called *Kindergärten* than in any others, though it has been by no means confined to them, nor was the idea first suggested by the Germans. The writer well remembers exercises of this kind in a school of which he was a member over thirty-five years ago, and which redounded greatly to his own benefit, as they no doubt did to that of all who participated in them. The objects selected were nearly always natural, and he vividly recalls a very close examination which he then made of an expanded chestnut-burr which was to be the theme of his little essay on one occasion. Ever after, if not before, he too could, with the poet,

—"in the rugged burr a beauty see."

This exercise is better than any other calculated to cultivate habits of close attention, at a period when such habits are most easily acquired, and to do away forever with all possibility of those loose and superficial ones, which characterize most people throughout life, leading to continual inaccuracy and consequent misapprehension of the facts of nature and of life.

Many years after the little exercises alluded to above, the writer was teaching in a country school in Pennsylvania, which was situated in the midst of a pleasant grove—just the kind of situation, by-the-by, for a school house. Sometimes the interest of the

younger scholars in their column of the multiplication table or the spelling lesson would flag. On such occasions he found no other means of stimulating them so successful as the promise of half an hour in the woods, where they could collect wild flowers and acorn cups, and, in the fall, the beautifully tinted autumn leaves. This promise almost universally insured perfect lessons from the whole class, who were generally ready for recitation before the hour for it arrived. On their return they were allowed to lay down a scalloped maple leaf or a sinuous oak-leaf on their slates, carefully to draw the outline, and then delineate the larger veins and the stem. This exercise was to them a source of never-failing pleasure; and while, instead of interfering with the other lessons, it secured a better performance of them, it also cultivated admirably the organs of form and colour, thus training the imagination and developing æsthetic tastes as no other exercise could. I suggest it to teachers, in the hope that some of them may taste its efficacy.—*Z. in Pennsylvania School Journal.*

2. TEACHERS' RULES.

1. Read these rules every morning.
2. Ventilate the school-room.
3. Inquire after absent scholars.
4. Remember the home lessons.
5. Insist on a quiet and orderly entrance and exit of the scholars, and on a proper deportment in and out of school.
6. Teach a proper manner of sitting, standing, and walking, especially while reciting.
7. Keep your scholars out of mischief, by keeping them employed.
8. Be orderly, and insist on order.
9. Never open or close your school without doing or saying something that will make a pleasing impression—be it by singing with the children, reading to them, showing them some beautiful or curious object, or making some pleasant and instructive remark.
10. Always remember the words of the poet: "Great is the slayer of lions, greater the conqueror of nations, greatest he who governs self."
11. Make the Golden Rule familiar to all; and
12. Let the only rule for the school-room be, *Do RIGHT!*—"PEN," in the *Chicago Schoolmaster*.

3. INCREASE OF TECHNICAL EDUCATION IN GERMANY.

The tendency towards technical instruction is rapidly growing in Germany. Very successful are their schools for printers, in which the pupil is taught not only the theory and practice of printing, but knowledge of other languages and the types of all languages which he may be apt to meet in the exercise of his trade. Beside these schools, there has lately been established at Leipzig one for booksellers. Three years' study is enjoined by the course, which takes in both the literary and commercial phases of the business. The studies prescribed are terrifically numerous and comprehensive. There are the ancient and modern languages, natural sciences, mathematics, the sciences of commerce, geography, drawing, writing, bibliography, book-sellers' technical information and business management, history, statistics, æsthetics, debate, elocution and the types and written characters of all languages. With acquirements like these the book-selling trade will be not merely a trade, but a most worthy and dignified profession. Nothing could be more hopeful and liberalizing in all directions than such accurate technical education.

4. MANNERS.

The difference between the true manner and the false, is just that between the real features and flesh of the face and a mask. So all effective cultivation of manners must begin with man. Make him generous, intelligent, refined, affable, sympathetic, and his actions will naturally tend to politeness as the smoke curls upward. True, this is not all; but this is the alphabet of which all else is application. Having these, it needs but a constant effort to express them in the simplest, noblest, most natural manner, to acquire the best manners.

[Continued from page 28.]

23rd, 24th, 25th. Fog, 30th. Snow, 1st—3rd, 7th, 8th, 10th, 11th, 13th, 15th, 18th—23rd, 26th—28th, 30th. Difference of mean temperature from average of 11 years for December = -8° 32m., an unusually large variation.

HAMILTON.—Burlington Bay frozen and navigation suspended 12th, sleighing began 20th. Wind storms, 13th, 14th, 21st, 28th. Snow, 1st—4th, 6th, 8th—14th, 15th, 18th—23rd, 25th—30th. Rain, 2nd, 7th.

SIMCOE.—Wind storm, 21st. Snow, 18th, 20th, 21st, 27th, 30th. Rain, 3rd. The last week or ten days of December said to be the coldest known in this region for several years.

WINDSOR.—Lunar halo, 6th, 10th, 14th, 17th. Meteor in E., towards H., 11th; meteor in E., towards S. E., 20th. Wind storms, 13th, 14th, 19th, 21st, 23rd, 25th. Snow, 1st, 19th, 21st, 23rd, 26th, 30th. Navigation on the lakes closed on the 4th, the river ports open about a week later. The temperature has not been so low on the Detroit River for many years as during this month.

PEMBROKE.—Snow, 1st, 2nd, 4th, 5th, 9th, 11th, 12th, 17th, 25th, 31st.
 Christmas ⁴ colder than any day in 1871.
 CORNWALL.—Wind storm, 20th. Snow, 2nd, 3rd—6th, 8th, 10th,
 12th—14th, 16th—20th, 23rd, 31st. Rain, 3rd.
 BAIRE.—Wind storm, 21st. Snow, 2nd—5th, 7th, 8th, 10th, 13th,
 14th, 16th, 18th—20th, 23rd, 26th—28th, 30. Kempenfeldt Bay froze
 over on the night of 11th—12th.
 PETERBOROUGH.—Circle round moon, 13th, 14th. Wind storm,
 14th (night). Fog, 16th, 17th. Snow, 2nd, 3rd, 6th, 7th—9th,
 11th—14th, 16th, 18th—23rd, 25th—30th. Rain, 1st, 7th. Sleighting
 began on the 3rd, and continued good till the close of the month.
 BELLEVILLE.—Snow, 2nd, 6th, 9th, 13th, 14th, 18th—23rd, 26th,
 31st. Rain, 2nd, 8th. Observer notes the considerable barometric
 changes; heavy falls of snow; low temperature during week ending
 28th, and low average for month.
 GOSBERG.—Wind storm, 23rd, 27th. Snow, 2nd, 6th—11th, 18th—
 26th, 28th, 29th. Rain, 2nd.
 STRATFORD.—Pethelia, 2nd. Wind storms, 7th, 14th, 21st, 22nd,
 29th. [Continued on preceding page.]

VI.—HIGH SCHOOL ATTENDANCE AND APPORTIONMENT FOR 1872.

SCHOOLS.	Average First Half.	Apportioned at \$9.75.	Added for Minimum.	Net Appor- tionment. First Half.	Average Second Half.	Apportioned at \$8.	Added for Minimum.	Deducted as per note be- low. (a)	Net Appor- tionment. Second Half.
		\$ cts.	\$ cts.	\$ cts.		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Alexandria.....	16	156 00	44 00	200 00	10	80 00	120 00		200 00
Almonte.....	10	97 50	102 50	200 00	14	112 00	88 00		200 00
Arnprior.....	16	156 00	44 00	200 00	22	176 00	24 00		200 00
Barrie.....	41	399 75		399 75	33	264 00			264 00
Beamsville.....	29	282 75		282 75	26	208 00			208 00
Belleville.....	61	594 75		594 75	53	424 00			424 00
Berlin.....	18	175 50	24 50	200 00	15	120 00	80 00		200 00
Bowmanville.....	45	438 75		438 75	42	336 00			336 00
Bradford.....	20	195 00	5 00	200 00	18	144 00	56 00		200 00
Brampton.....	61	594 75		594 75	49	392 00			392 00
Brantford.....	61	594 75		594 75	61	488 00			488 00
Brighton.....	14	136 50	63 50	200 00	32	256 00		a 56 00	200 00
Brockville.....	60	585 00		585 00	66	528 00			528 00
Caledonia.....	28	273 00		273 00	28	224 00			224 00
Carleton Place.....	11	107 25	92 75	200 00	21	168 00	32 00		200 00
Cayuga.....	30	292 50		292 50	25	200 00			200 00
Chatham.....	45	438 75		438 75	40	320 00			320 00
Clinton.....	31	302 25		302 25	33	264 00			264 00
Cobourg.....	103	1004 25		1004 25	84	672 00			672 00
Colborne.....	38	370 50		370 50	24	192 00			b 192 00
Collingwood.....	18	175 50	24 50	200 00	24	192 00	8 00		200 00
Cornwall.....	13	126 75	73 25	200 00	no re turn				
Drummondville.....	29	282 75		282 75	23	184 00			b 184 00
Dundas.....	64	624 00		624 00	56	448 00			448 00
Dunnville.....	28	273 00		273 00	21	168 00			b 168 00
Elora.....	20	195 00	5 00	200 00	19	152 00	48 00		200 00
Farmersville.....	30	292 50		292 50	26	208 00			208 00
Fergus.....	25	243 75		243 75	15	120 00	36 25		b 156 25
Fonthill.....	20	195 00	5 00	200 00	15	120 00	80 00		200 00
Galt.....	121	1179 75		1179 75	138	1104 00			1104 00
Gananoque.....	39	380 25		380 25	42	336 00			336 00
Goderich.....	31	302 25		302 25	38	304 00			304 00
Grimsby.....	38	370 50		370 50	22	176 00			b 176 00
Guelph.....	30	292 50		292 50	37	296 00			296 00
Hamilton.....	130	1267 50		1267 50	129	1032 00			1032 00
Ingersoll.....	41	399 75		399 75	52	416 00			416 00
Iroquois.....	64	624 00		624 00	54	432 00			432 00
Kemptville.....	20	195 00	5 00	200 00	20	160 00	40 00		200 00
Kincardine.....	26	253 50		253 50	20	160 00			b 160 00
Kingston.....	71	692 25		692 25	70	560 00			560 00
Lindsay.....	30	292 50		292 50	40	320 00			320 00
London.....	162	1579 50		1579 50	151	1208 00			1208 00
L'Orignal.....	16	156 00	44 00	200 00	17	136 00	64 00		200 00
Manilla.....	24	234 00		234 00	20	160 00	6 00		166 00
Markham.....	25	243 75		243 75	23	184 00			b 184 00
Metcalfe.....	14	136 50	63 50	200 00	no re turn				
Milton.....	20	195 00	5 00	200 00	13	104 00	96 00		200 00
Morrisburgh.....	31	302 25		302 25	31	248 00			248 00
Mount Pleasant.....	23	224 25		224 25	30	240 00			240 00
Napanee.....	114	1111 50		1111 50	70	560 00			560 00
Newburgh.....	40	390 00		390 00	30	240 00			240 00
Newcastle.....	29	282 75		282 75	17	136 00			b 136 00
Newmarket.....	34	331 50		331 50	32	256 00			256 00
Niagara.....	14	136 50	63 50	200 00	15	120 00	80 00		200 00
Norwood.....	26	253 50		253 50	31	248 00			248 00
Oakville.....	21	204 75		204 75	33	264 00			264 00
Oakwood.....	12	117 00	83 00	200 00	11	88 00	112 00		200 00
Onemees.....	41	399 75		399 75	40	320 00			320 00
Orangeville.....	15	146 25	53 75	200 00	13	104 00	96 00		200 00
Osborne.....	15	146 25	53 75	200 00	11	88 00	112 00		200 00
Oshawa.....	67	653 25		653 25	54	432 00			432 00
Ottawa.....	77	750 00		750 00	68	544 00			544 00
Owen Sound.....	67	653 25		653 25	87	696 00			696 00
Pakenham.....	17	165 75	34 25	200 00	9	72 00	128 00		200 00
Paris.....	37	360 75		360 75	32	256 00			256 00
Parkhill.....	new school				21	168 00	32 00		200 00
Pembroke.....	10	97 50	102 50	200 00	10	80 00	120 00		200 00
Perth.....	49	477 75		477 75	53	424 00			424 00
Peterborough.....	112	1092 00		1092 00	166	1328 00			1328 00
Pictou.....	63	614 25		614 25	40	320 00			320 00
Port Dover.....	22	214 50		214 50	16	128 00	87 50		b 185 50
Port Hope.....	62	604 50		604 50	59	472 00			472 00
Port Perry.....	19	185 25	14 75	200 00	33	264 00		14 75	249 25
Port Rowan.....	19	185 25	14 75	200 00	10	80 00	120 00		200 00
Prescott.....	28	273 00		273 00	38	304 00			304 00
Renfrew.....	17	165 75	34 25	200 00	29	232 00		32 00	200 00
Richmond Hill.....	23	224 25		224 25	22	176 00			b 176 00
Sarnia.....	33	321 75		321 75	49	392 00			392 00
Scotland.....	24	234 00		234 00	16	128 00	38 00		b 166 00
Simcoe.....	51	497 25		497 25	36	288 00			288 00
Smith's Falls.....	40	390 00		390 00	30	240 00			240 00
Smithville.....	27	263 25		263 25	24	192 00			b 192 00
Stirling.....	15	146 25	53 75	200 00	15	120 00	80 00		200 00
Stratford.....	58	565 50		565 50	54	432 00			432 00
Strathroy.....	27	263 25		263 25	31	248 00			248 00
Streetsville.....	13	126 75	73 25	200 00	no re turn				
St. Catharine's.....	134	1306 50		1306 50	135	1080 00			1080 00
St. Mary's.....	36	351 00		351 00	37	296 00			296 00
St. Thomas.....	53	516 75		516 75	37	296 00			296 00
Thorold.....	37	360 75		360 75	20	160 00			b 160 00

HIGH SCHOOL ATTENDANCE AND APPORTIONMENT FOR 1872.—*Continued.*

SCHOOLS.	Average First Half.	Apportioned at \$9.75.	Added for Minimum.	Net Apportionment First Half.	Average Second Half.	Apportioned at \$8.	Added for Minimum.	Deducted as per note below. (a)	Net Apportionment Second Half.
	\$ cts.	\$ cts.	\$ cts.			\$ cts.	\$ cts.	\$ cts.	\$ cts.
Toronto	111	1082 25		1082 25	129	1032 00			1032 00
Trenton	22	214 50		214 50	44	352 00			352 00
Uxbridge	22	214 50		214 50	23	184 00	1 50		b 185 50
Vankleekhill	16	156 00	44 00	200 00	22	176 00	24 00		200 00
Vienna	32	312 00		312 00	28	224 00			224 00
Walkerton	new school				20	160 00	40 00		200 00
Wardville	28	273 00		273 00	24	192 00			b 192 00
Waterdown	25	243 75		243 75	24	192 00			b 192 00
Welland	40	390 00		390 00	38	304 00			304 00
Weston	32	312 00		312 00	25	200 00			200 00
Whitby	93	906 75		906 75	92	736 00			736 00
Williamstown	32	312 00		312 00	35	280 00			280 00
Windsor	19	185 25	14 75	200 00	48	384 00		14 75	369 25
Woodstock	42	409 50		409 50	36	288 00			288 00

NOTE.—The apportionment for the first half-year, distributed in July, was at the rate of \$9 per pupil. Towards the close of the year, a balance remaining in consequence of certain projected new schools not having gone into operation, it was decided to distribute the money, which would otherwise have lapsed on 31st December, before the second half-year's returns had been received.

The balance was accordingly apportioned as follows:—

First.—A grant, at the rate of 75 cents per pupil (average attendance), in the first half-year of 1872, was made; and, secondly, those schools which did not thus obtain an apportionment of at least \$200 (half of the legal minimum at the rate of \$400), were allowed the difference, so that all should receive at least at the rate of \$200 each for the half year. The balance was thus absorbed.

Some new schools being now about to go into operation, the rate per pupil, at least for the last half of 1872, had to be placed at \$8, the grant being paid out of the vote of the current year. Should the attendance and the number of schools allow of a larger grant for the next half-year, an increased rate will be adopted.

a In the column for deductions are entered those amounts by which the grants on the basis of attendance for the second half-year were diminished, in consequence of the sums added to make up the \$200 for the first half-year, together with the sum earned by attendance for the second half-year, exceeding the minimum at the rate of \$400. No deduction is made where the attendance, without any added grant, has obtained a grant exceeding the rate of \$400 for the year.

b Certain of the apportionments for the second half-year were less than \$200, those for the first half being in excess; but in all cases the minimum at the rate of \$400 for the year was granted to each of those schools.

VII. Mathematical Department.

(To the Editor of the Journal of Education.)

SIR,—I herewith send you for publication in the *Journal of Education* the solutions of the questions in Natural Philosophy and Algebra, proposed to candidates for First-class Certificates, at the recent examination of Public School Teachers.

It will be observed, that, instead of offering any solutions of my own of the questions in Natural Philosophy, I have transmitted, without alteration, the papers of Mr. Somerville, who has answered with substantial accuracy eight out of the nine questions proposed, and would undoubtedly have answered the remaining question also, had he not, in reading the question, inadvertently changed *cylinder* into *cone*. What he has written on this, the only problem which he did not succeed in solving, shows that he understood the principle involved; and, as the working of the problem happens to be extremely simple, he may be regarded as having virtually floored the paper. As Mr. Somerville was a pupil in the Normal School, I think it may fairly be inferred, from his admirable performance, that the instruction given in Natural Philosophy in the Normal School is of a very superior order.

The greatest number of marks, over the whole field, was obtained by a lady, Miss Anna Living. It is somewhat noteworthy that, in Algebra, among other subjects, she was decidedly ahead of all her competitors. You will find specimens of her work in the paper of solutions herewith transmitted. I send you also, for publication, specimens of her answers to the questions in History and English Literature. *They will show intending candidates for First-class certificates what sort of answers the examiners regard with satisfaction, and will, at the same time, convince intelligent persons throughout the Province that the examiners are faithfully observing the instructions they have received from the Council of Public Instruction, to place no candidates in the First-class who have not attained to a high degree of excellence.

I have the honour to be, Sir,
Your obedient servant,
GEORGE PAXTON YOUNG.

Toronto, 22nd Jan., 1873.

MR. SOMERVILLE'S answers to the questions in Natural Philosophy:—

1st. Since the pressure of the air is equivalent to the weight of a column of mercury $2\frac{1}{2}$ feet high, it would balance a column of water $13.57 \times 2\frac{1}{2} = 33.925$ feet high.

* Deferred for want of space until next month.—Ed. *Journal of Education*.

But a cubic foot of water weighs 1000 oz. \therefore the pressure of the air is 33925 oz. on each square foot of surface.

Now, the surface of the sphere is $1^2 \times 3.1416 = 3.1416$ sq. feet. \therefore the pressure on it when in free external air would be $3.1416 \times 33,925$ oz.

But the pressure of the air in the receiver is only $\frac{1}{3.1416}$ that of the external air \therefore the pressure on the sphere is

$$\frac{3.1416 \times 33,925}{3.1416} = 33,925 \text{ oz. Ans.}$$

2nd. Since No. 1 floats with $\frac{7}{10}$ of its volume immersed, its S. G. is $\frac{7}{10}$.

And since No. 2 floats in salt water with $\frac{2}{11}$ of its volume immersed, and that salt water is 1.025 times as heavy as fresh water \therefore its S. G. is

$$\frac{26}{41} \times \frac{1025}{1000} = .65 \text{ or } \frac{13}{20}$$

Now, let x = weight of No. 1; then $x - 10$ = weight of No. 2. And since the weight of a body, divided by its S. G., gives the volume, and the volume of each is the same \therefore

$$\begin{aligned} \frac{10}{x} &= \frac{20}{13(x-10)} \\ \text{or } 130x &= 140x - 1400 \\ \therefore 10x &= 1400 \\ \text{and } x &= 140 \end{aligned} \quad \text{Ans.}$$

3rd. The C. G. of a sphere filled with water is in the centre, \therefore the pressure of the inner surface of a sphere is

$\pi d^2 \times \frac{1}{2} d \times$ weight of one cubic foot of water, because, to find the pressure, we multiply the area of the surface pressed (πd^2) by the depth of the C. G. below the upper surface, and that by the weight of a cubic foot of water. And the weight of the water is $\frac{\pi d^3}{6} \times$ weight of 1 cubic foot of water; but the pressure on the

inner surface of the sphere is $\frac{1}{2} \pi d^3 \times$ weight of a cubic foot of water, \therefore the pressure on the inner surface is equal to three times the weight of the water.

4th. A uniformly accelerating force is measured by considering how much the velocity is increased in one unit of time.

When a body is moving with a velocity which is not uniform, its velocity at any instant is measured by considering how far it would

move in the next unit of time if the velocity were to remain uniformly the same as it was at that instant.

$$\begin{aligned}v^2 &= V^2 - 2fs, \\ \therefore 8^2 &= V^2 - 64 \times 63, \\ \therefore V^2 &= 64 \times 62, \\ \therefore V &= 62.9 \text{ Ans.}\end{aligned}$$

[Note.—In transposing, in the last line but one, Mr. Somerville, by a manifest inadvertence, neglected to change the sign of one of the terms. Had it not been for this oversight, he would have got $V^2 = 64 \times 64$, which gives $V = 64$, the correct answer. G. P. Y.]

5th.

$$\begin{aligned}S &= Vt + \frac{1}{2}ft^2 \\ \therefore S_1 &= 44t + 16t^2 \\ S_2 &= 20t + 16t^2\end{aligned}$$

Since each particle was moving the same length of time, "t" is the same in each equation.

$$\begin{aligned}\text{Let } x &= S_1 \\ \text{then } 480 - x &= S_2 \\ \text{then } 16t^2 + 44t &= x \\ \text{and } 16t^2 + 20t &= 480 - x\end{aligned}$$

$$\begin{aligned}(\text{adding}) \quad 32t^2 + 64t &= 480 \\ \therefore t^2 + 2t &= 15 \\ \therefore t &= 3 \text{ sec.}\end{aligned}$$

$$\begin{aligned}\text{Now } S_1 &= 44t + 16t^2 \\ &= 132 + 144 \\ &= 276 \text{ ft}\end{aligned}$$

$$\begin{aligned}\text{And } S_2 &= 20t + 16t^2 \\ &= 60 + 144 \\ &= 204 \text{ ft}\end{aligned}$$

\therefore One moves 276 ft } Ans.
and the other 204 ft }

6th. Since "C" is the fulcrum, and the lever is in equilibrium, the resultant of P and W is $P + W$ acting at the point C.

And, the moment of the resultant of any two forces about a point in their plane, is equal to the sum of the moments of the forces about the same point. \therefore taking the moments about the point "D" we have

$$P \times AD + W \times BD = (P + W) \times DC.$$

Q. E. D.

7th. Mr. Somerville draws F E G at right angles to A B through the point E, and then proceeds as follows:—

Resolve along A B and along F G. $10\sqrt{5}$ resolved along A B will be $10\sqrt{5} \times \frac{1}{\sqrt{5}} = 10$ lbs, acting in the direction of E B.

And, resolved along F G it would be $10\sqrt{5} \times \frac{2}{\sqrt{5}} = 20$ lbs, because the Cos. of the angle C E F is $\frac{2}{\sqrt{5}}$.

Again, $5\sqrt{5}$ resolved along A B is $5\sqrt{5} \times \frac{1}{\sqrt{5}} = 5$ lbs in the direction of E A, and there is also another force of 5 lbs acting along E A. \therefore the whole force acting in the direction E A is 10 lbs; but there is 10 lbs acting along E B. \therefore these neutralize each other, and the R is along F G at right angles to A B. And the result is

$$10\sqrt{5} \times \frac{2}{\sqrt{5}} + 5\sqrt{5} \times \frac{2}{\sqrt{5}} = 20 + 10 = 30 \text{ lbs.}$$

[Note.—This is substantially correct; but the cosine of the angle C E F is not $\frac{2}{\sqrt{5}}$, but $\frac{1}{\sqrt{5}}$, which makes the resolved portion in the direction F G 20 lbs, as Mr. Somerville finds. G. P. Y.]

8th. Since the C. G. of a cone is $\frac{3}{8}$ of its $\perp r$ height from the apex, it follows, that if the cone were laid with its axis horizontal, the radius of the base would need to be $\frac{3}{8}$ of the $\perp r$ height. But, if laid on its side, it would not need to be so long since the C. G. is lowered.

As the time is up, I have no more time to investigate it.

G. A. S.

[Note.—Mr. Somerville unfortunately mistook the problem, by substituting the word cone for cylinder. Had it not been for this oversight it seems evident that he would have solved the question proposed, as he shows, by what he has written, that he understands the principle involved. G. P. Y.]

9th. Taking the moments around the point A we have

$$192 \times 2\frac{1}{2} = T \times 12$$

$$\therefore 24T = 960$$

$$\text{and } T = 40 \text{ lbs} = \text{tension on B C.}$$

Now, taking moments around L we have

$$192 \times 2\frac{1}{2} = F \times 12$$

$$\therefore F = 40 \text{ lbs} = \text{friction at A.}$$

Again, taking moments around B we have

$$R \times 5 = 192 \times 2\frac{1}{2} + F \times 12$$

$$= 480 + 480$$

$$= 960$$

$$\therefore R = 192 \text{ lbs} = \text{re-action on beam at A.}$$

$$\therefore \text{Re-action on beam at A} = 192 \text{ lbs } \left. \begin{array}{l} \text{Tension on string C B} = 40 \text{ " } \end{array} \right\} \text{Ans.}$$

[Note.—Why does not Mr. Somerville apply his principles more boldly? Is it not obvious that the re-action must be equal to the weight of the beam, as the re-action and the weight are the only vertical forces (which must, therefore, counter-balance one another), all the other forces being in a horizontal direction? G. P. Y.]

SOLUTIONS OF THE QUESTIONS IN ALGEBRA.

1. The H. C. M., found by the ordinary rule, is $x^2 - x - 1$.
2. The three values of the cube root of unity are the roots of the equation, $x^3 - 1 = 0$. But,

$$x^3 - 1 = (x - 1)(x^2 + x + 1) = 0.$$

Therefore, the required roots are found by the solution of the equations, $x - 1 = 0$, and $x^2 + x + 1 = 0$.

3. Let the reciprocals of the required numbers be

$$x, x+y, x+2y, x+3y.$$

Then, by the second condition of the question—

$$2x + 3y = 7;$$

And, by the first condition—

$$15x^2 = 4(x+y)(x+3y).$$

The elimination of y from these equations gives us

$$x^2 - 4 = 0 \therefore x = 2 \therefore y = 1;$$

Hence, the required numbers are $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$.

Another solution, by Miss Anna Living, is as follows:—

Let x = the first number.

y = the common difference of the reciprocals.

then $\frac{1}{x}$ = first reciprocal,

$\frac{1+x}{x}$ = second "

$\frac{1+2x}{x}$ = third "

$\frac{1+3x}{x}$ = fourth "

$$15 \left(\frac{x}{1+x} + \frac{x}{1+3x} \right) = 8x + 16x^2y$$

$$15 = 4 + 16xy + 12x^2y^2$$

$$x^2y^2 + \frac{4}{3}xy = \frac{11}{12} \therefore xy = \frac{1}{2}$$

$$\text{And } \frac{1}{x} + \frac{1+x}{x} + \frac{1+2x}{x} + \frac{1+3x}{x} = 14$$

$$2 + 3xy = 7x \text{ and } xy = \frac{1}{2}$$

$$\therefore 2 + \frac{3}{2} = 7x \therefore \frac{1}{2} = x, \text{ and } 1 = y.$$

\therefore the four numbers are $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$.

5. The following solution of this question is by Mr. James Ferrie:—As the minute and the hour hands are together four times in the course of 12 hours, between 4 and 5 o'clock, the time will be $\frac{4}{11}$ of an hour past 4 o'clock, i.e. 4 h. 21 m. $49\frac{1}{11}$ sec. by the watch going too fast. And, as the watch losing time shows 59 minutes 59 seconds, when the other shows 60 minutes 1 second, we find the time on the watch going too slow by the proportions

$$60 \text{ m. } 1 \text{ sec.} : 59 \text{ m. } 59 \text{ sec.} :: 4 \text{ h. } 21 \text{ m. } 49\frac{1}{11} \text{ sec.,}$$

which gives for answer 4 h. 21 m. $40\frac{14500}{1111}$ sec.

6. When $p + q\sqrt{-1}$ is substituted in the given equation, the result is of the form—

$$A + B\sqrt{-1} = 0,$$

A and B being rational. But, in order that this equation may subsist, A and B must each be zero. Now, if $p - q\sqrt{-1}$ be substituted in the given equation, the result is

$$A - B\sqrt{-1} = 0.$$

But, A and B each being zero, the equation $A - B\sqrt{-1} = 0$ subsists. Therefore, the given equation is satisfied by the value of x , $p - q\sqrt{-1}$.

The roots of the equation, $x^2 - \frac{52x}{7} + m = 0$, remain real, so long as $\left(\frac{26}{7}\right)^2 - m$ is positive. When this expression is zero, the roots are equal; and for every value of m greater than $\left(\frac{26}{7}\right)^2$, the roots are imaginary.

6. The first part of this question is familiar book work. The second part may be solved as follows:—

$$\frac{1-x}{1-y} = \frac{(2-9x+x^2)+(5+10x-x^2)}{(2-7y+y^2)+(1+8y-y^2)} = \frac{7+x}{3+y}$$

$$\therefore 7-7y+x-xy=3+y-3x-xy$$

$$\therefore x=2y-1.$$

Substitute this value of x in the equation

$$\frac{1-x}{1-y} = \frac{2-9x+x^2}{2-7y+y^2}.$$

Then $y^2-4y+4=0$ $\therefore y=2$; and $x=2y-1=3$.

Another Method.—Miss Anna Living solves the problem by putting

$$\frac{1-x}{1-y} = \frac{2-9x+x^2}{2-7y+y^2} \text{ and } \frac{1-x}{1-y} = \frac{5+10x-x^2}{1+8y-y^2}.$$

She clears the equations of fractions, and, by combining the results, obtains $2y=x+1$, the same result as was found above. From this, the values of the x and y are easily deduced.

7. The following solutions is from the papers of Mr. George A. Somerville:—

$$\text{Let } p \text{ and } q \text{ be the roots of } x^2 + \frac{b}{a}x + \frac{c}{a} = 0.$$

$$\text{Then } p+q = -\frac{b}{a}, \text{ and } pq = \frac{c}{a}.$$

$$\therefore a(p+q) = -b, \text{ and } apq = c \therefore \frac{p+q}{pq} = -\frac{b}{c}.$$

In like manner, assuming p and r to be the roots of the equation $x^2 + \frac{nx}{m} + \frac{nc}{mb} = 0$, Mr. Somerville shows that $\frac{p+r}{pr} = -\frac{b}{c}$.

$$\therefore \frac{p+q}{pq} = \frac{p+r}{pr} \therefore p^2r + pqr = p^2q + pqr \therefore r = q.$$

8. The first of the given equations can be put in the form,

$$(x+y)(x^2-xy+y^2) + xy(x+y) = 108$$

$$\therefore (x+y)(x^2+y^2) = 108.$$

If, now, we put z for $x+y$, and v for x^2+y^2 , this becomes $zv = 108$.

But, we have also given $v+z = 24$

$$\therefore v=18, \text{ and } z=6 \therefore x=y=3.$$

9. Mr. Arthur Brown alone has solved this question. His solution is correct, except for a slight mistake in the working, towards the close. The following is the solution:—

Multiply both sides by $\sqrt{1-x-1}$;

$$\text{then } n+1 - \sqrt{1+x} = n\sqrt{1-x}.$$

By squaring both sides,

$$2(n+1) + x(n^2+1) = 2(n+1)\sqrt{1+x}.$$

Square again, and transpose. Then

$$x^2(n^2+1)^2 + 4nx(n^2-1) = 0.$$

$$\therefore x = -\frac{4n(n^2-1)}{(n^2+1)^2}$$

10. The following solution, which, though correct, is awkward, is from the papers of Mr. George A. Somerville:—

Let x = distance from A to B .

y = distance from B to C .

$\therefore 2y-x$ = distance from C to D .

$$\text{Then, } \frac{2y-x}{3\frac{1}{2}} = Q's \text{ rate at first.}$$

$$\therefore \frac{6y-3x-5}{10} = Q's \text{ rate in the second case.}$$

$$\text{And, } \frac{3y}{10} = P's \text{ rate at first.}$$

$$\frac{3y}{10} + 2 = P's \text{ rate in the second case.}$$

Mr. Somerville then obtains the equations—

$$\frac{10y}{6y-3x-5} + \frac{1}{2} = \frac{20y-10x}{3y+20}$$

$$\text{And, } \frac{10x+10y}{6y-3x-5} = \frac{20y-10x}{3y+20} + 4.$$

Mr. Somerville did not finish the solution, but his equations give $x=5$, and $y=10$; hence, the required distance is 30.

Another solution, by Miss Anna Living, is as follows:—

Let x = the distance from A to B ,

y = the distance from C to D ,

$$\text{Then, } \frac{x+y}{2} = \text{the distance from } B \text{ to } C,$$

$$\frac{3x+3y}{20} = P's \text{ rate per hour.}$$

$$\frac{3y}{10} = Q's \text{ rate per hour.}$$

$$\frac{3y-5}{10} = Q's \text{ decreased rate per hour.}$$

$$\frac{3x+3y+40}{20} = P's \text{ increased rate per hour.}$$

$$\frac{5x+5y}{3y-5} = Q's \text{ time to reach } B.$$

$$\frac{15x+5y}{3y-5} = Q's \text{ time to reach } A.$$

$$\frac{3x+3y+40}{20y} = P's \text{ time to reach } D.$$

$$\frac{5x+5y}{3y-5} + \frac{1}{2} = \frac{20y}{3x+3y+40} = \frac{15x+5y}{3y-5} - \frac{3}{4}.$$

From which equations, Miss Living finds:—

$$x=5, y=15, \text{ and } \therefore \text{the distance from } A \text{ to } D=30 \text{ miles.}$$

VIII. Educational Intelligence.

TRINITY COLLEGE.—The annual convocation of Trinity College University was held in the Hall of the College at the usual time, the Chancellor of the University, the Hon. J. H. Cameron, Q.C., D.C.L., presiding.

The Provost having read prayers, the following degrees were conferred in the usual manner:—

B.A.—William Cartwright Allen, Rev. Robert Doherty, Frederick M. Morson and Alex. B. Chafee.

M.A.—Rev. Wm. Stephen Westney. M.B.—Egerton R. Griffin. M.D.—Joseph Allright, Logan Murray Moore, Charles William Marlatt, Hugh Lang, Samuel Shakespere Stephenson, Geo. Steacy, Jas. McLaren Wallace, Archibald Sinclair Campbell.

D.C.—Salter J. Vankoughnet.

Admitted to the Divinity Class.—W. C. Allen, A. B. Chafee, J. H. Fletcher, W. E. Grahame, W. M. Tooke and W. Jupp.

The Chancellor then presented the following prizes, addressing a few congratulatory remarks to each recipient:—Ogden Pulteney Ford, B.A., the Hamilton Memorial Prize for 1872. Ogden P. Ford, B.A., the Bishop of Toronto's prize for Divinity. John Austin Worrell, the Prince of Wales' prize for 1st class in Classical Honours, 1871. Reginald Gourlay, prize poem for English subjects. W. C. Allen, the Prince of Wales' prize for 1st class in Classical Honours, 1872. W. C. Allen, Classical prize for third year. Chas. John Logan, Classical prize for second year. Clarendon L. Worrell, Mathematical prize for second year. Several students having matriculated, the Chancellor briefly addressed those assembled, expressing the pleasure he felt at seeing so many students matriculating and taking the degree of M.D. It showed a clear indication of the good work which was being done by the College. He referred in very appropriate terms to the munificent bequest to the College of \$4,000 by the late Mr. T. C. Street, and concluded by expressing a hope that a new Convocation Hall would soon be provided. The Convocation was then adjourned.

IX. Departmental Notices.

TEACHERS' GOLD MEDAL FOR COMPETITION.

As already intimated in this Journal, we desire to state that William McCabe, Esq., LL.B. (a former successful teacher) has intimated to the department his intention to offer a gold medal, to the most successful candidate for a First Class Certificate of the highest grade, at the July examinations of this year. We hope that this generous offer will stimulate a large number of our teachers to endeavour to obtain the very highest place in their profession.

NEW SCHOOL MANUAL.

In answer to various inquiries on the subject of a new School Manual we would say, that as the School Law will likely be revised and consolidated at the next session of the Legislature in 1874, it is not thought desirable to publish a School Manual at present. Such a Manual should include in it the official regulations, but as they will not be revised until about the close of the present year (1874), or later, they cannot be embodied in the manual until then.

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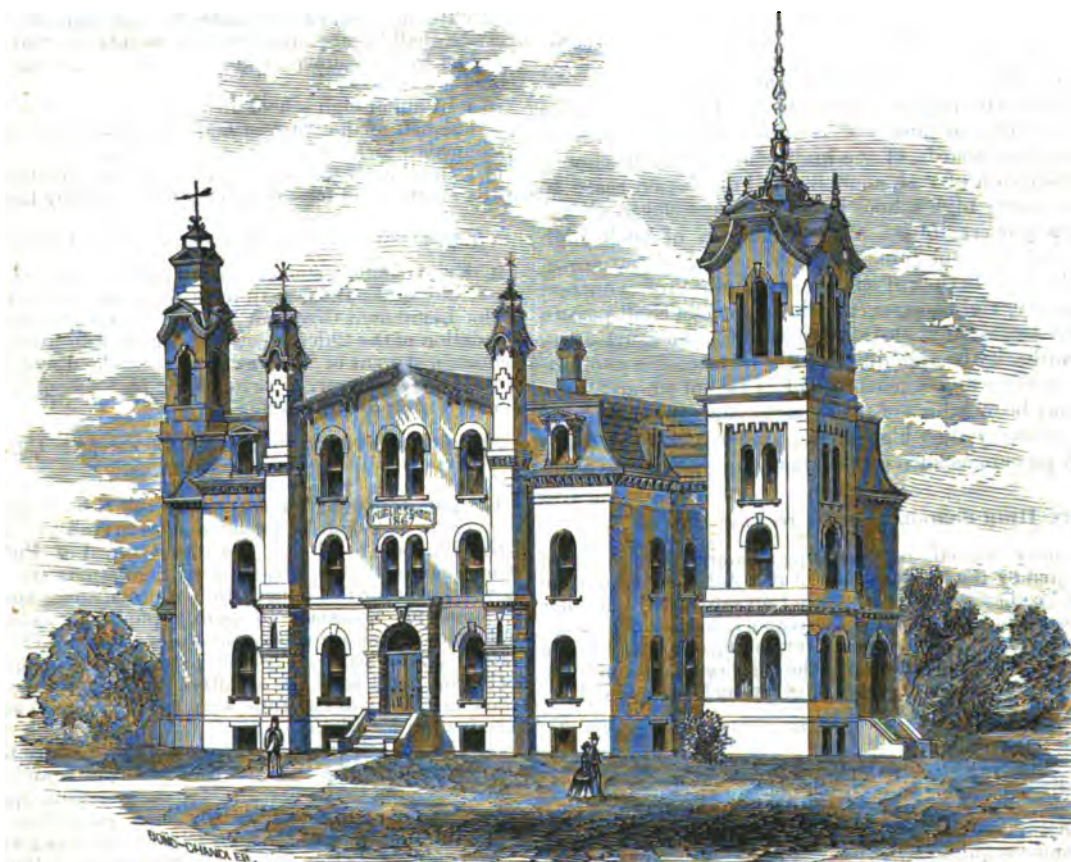
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SCHOOL LEGISLATION.

The new School Bill which was introduced into the Legislature, by the Hon. Attorney-General Mowat during the recent session of the Legislature, received two formal readings by the House, but was withdrawn on the last day of the Session, in deference to the wishes of several of the members.

The first seven sections of the Bill relate to the election every two years of certain members to the Council of Public Instruction and to the periodical appointment of others by the Governor in Council. It was proposed to elect one member by the Public School Inspectors, one by the Head Masters of High Schools, and one by the Head Teachers of the Public Schools, and of the Roman Catholic Separate Schools. Several members of the House of Assembly also wished to give the Wardens of Counties, (as the representatives of the Municipal System of the Province, on which our School System itself is based,) the right to elect one member to the Council.



HIGH SCHOOL, MARSHALL, MICHIGAN.

The eighth section of the Bill as originally introduced was modified, after a conference on the subject had been held with a number of members on both sides of the House. With the exception of the tenth section the whole of the remaining sections of the Bill were submitted by the Chief Superintendent of Education and approved by the Attorney-General. They are as follows:—

AN ACT TO AMEND THE PUBLIC AND HIGH SCHOOL LAWS OF ONTARIO.

(Sections 1 to 7 inclusive relate to the election of Members to the Council of Public Instruction.)

CITY, TOWN SEPARATED AND COUNTY TO BE HIGH SCHOOL DISTRICTS.

8. From and after the passing of this Act, every city, every town separated for municipal purposes from the county in which it is situated, and every county and union of counties shall, for the purposes of the High School Acts and this Act, be high school districts respectively.

[NOTE.—The following clauses (A to G inclusive.) were under consideration for insertion in lieu of Section 8 of the Bill, as introduced into the House of Assembly.]

ALTERNATIVE: COUNTY HIGH SCHOOL BOARD OR SUB-DISTRICTS.

A. The municipal council of every county (or union of counties) at its first, or June meeting, after the passing of this Act, shall by by-law either:—

(a)—declare itself, and be, a high school board for the management of the high school or high schools of the county, (or union of counties) within its jurisdiction; or, it shall by by-law:—

(b)—assign to each of the high schools within its jurisdiction, as aforesaid, a sub-district, containing within the boundaries of such sub-district not less than seven hundred and fifty families, or equalized assessed property to the value of seven hundred and fifty thousand dollars.

POWERS AND OBLIGATIONS OF COUNTY HIGH SCHOOL BOARDS.

B. In case a county council, as provided in the next preceding section, prefers to declare itself to be a county high school board for such county, or union of counties, then the present high school board or boards, of the high school, or high schools, within the jurisdiction of such council, shall thereupon cease to exist; and the county high school board shall succeed to all the property, rights, powers, duties and obligations of such high school boards in the towns (not separated), villages and townships within the jurisdiction of the county or union of counties: And such property, rights, powers and obligations shall pass to and become and be vested in the county council: And such council shall have authority to appoint annually or oftener a committee consisting of three or five persons, one or two of whom (as the case may be) may be members of such county council, for the special oversight of every such high school, under such regulations and with such powers as such council may think proper to authorize.

COUNTY HIGH SCHOOL BOARDS TO LEVY RATES.

C. Every county council, on becoming a county high school board, as provided by the ninth section of this Act, shall from time to time, levy and collect rates in each town (not separated) and other parts of the county for the purchasing of a school site, the erection, enlargement, repairs and improvement and furnishing of a school-house and premises, and for the payment of the salaries of the masters and teachers and of all other expenses of every such high school.

PROVIDE FUNDS FOR HIGH SCHOOLS IN SUB-DISTRICTS.

D. In case a county council shall prefer to assign to each high school within its jurisdiction, a sub-district (as provided in the ninth section of this Act), such council, on an estimate laid before it by the board of any high school in the district or any sub-district within its jurisdiction, of the sums required by it for the maintenance and school accommodation and other expenses of its school, shall impose upon

the taxable property of such district or sub-district (as the case may be), a rate sufficient to meet such expenses.

INTERIM PROVISION BY COUNTY COUNCIL FOR HIGH SCHOOLS.

E. The county council shall (as provided in the ninth section of this Act), declare the council to be a county high school board, or until the county, or union of counties (as provided in the said ninth section) be divided into sub-districts, the council shall, out of the general funds of the county, or otherwise, provide such sums as any high school board in the county within its jurisdiction may by estimate, as aforesaid, require for the maintenance, school accommodation, and other expenses of its high school.

UNION HIGH SCHOOL DISTRICT MAY BE FORMED WITH TOWN SEPARATED.

F. The council of any county (or union of counties), and the council of any town (separated for municipal purposes from such county or union of counties), may each pass a By-law providing for the formation, alteration or dissolution of a union high school district, composed of the separated town and of such parts of the county (or union of counties) as the county council shall determine.

And, in like manner, the councils of two or more adjoining counties may form, alter or dissolve the unions of a high school district, composed of parts of such adjoining counties as the councils respectively may determine. And such union high school district or districts shall, for the purposes of the High School Act and this Act, belong to the separated town, or the county in which the high school is situated (as the case may be): And the council of such county or town separated shall (on the estimate of the trustees of the high school concerned) provide for the maintenance, school accommodation and all other expenses of such high school: Provided that no such dissolution shall take place except at the close of a civil year, or without the consent of a majority of the members of each of the councils concerned respectively, or without the consent of at least two-thirds of the members of any one of the councils concerned, as the case may be.

APPOINTMENT OF HIGH SCHOOL TRUSTEES.

G. High school trustees shall be appointed as follows:—

(1.) In every city and town (separated from the county in which it is situated) the high school trustees shall be appointed by the municipal council thereof;

(2.) In high school sub-districts, one half of the high school trustees shall be appointed by the county council concerned, and one half by the council of the town or village in which the high school is situated;

(3.) In union high school districts formed out of adjoining counties, one half of the trustees shall be appointed by each of the county councils which formed the union district.

(4.) In all cases the appointment of such trustees shall be made in the manner and for the periods prescribed by law.

ESTABLISHMENT AND DISCONTINUANCE OF HIGH SCHOOLS.

9. Every county council, at its June session in any year, but not at any other time, shall have authority (with the concurrence of the Lieutenant-Governor in Council, on the report and recommendation of the Chief Superintendent of Education) to decide upon the establishment of any new, and upon the discontinuance, at end of the then civil year, of any existing high school in any part of the county within its jurisdiction.

ADMISSION OF PUPILS TO HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

10. The thirty-eighth section of the School Act of 1871 (34 Vic., chap. 33), shall be amended so as to read as follows:—

38. It shall be the duty of the Council of Public Instruction from time to time to prescribe by regulations (to be approved of by the Governor in Council) the subjects, times and extent of the examinations necessary to qualify pupils for admission into the high school and collegiate institutes, and also to determine the standard to be attained by each pupil for such admission;

(1) No pupil shall be admitted to, or continued in, any high school or collegiate institute who has not passed such preliminary examination for admission;

(2) The council shall, from time to time, require the central committee (appointed by the said council for the examination of public school teachers) to prepare, under its direction, questions for the uniform examination, under the said prescribed regulations of pupils for admission to the high schools and collegiate institutes;

(3) The examination papers so prepared, with the value assigned to each question, and directions from the Chief Superintendent of

Education as to any further examinations, which the council may desire to be made *visa voce*, are to be transmitted by the said Chief Superintendent to the Inspector of Public Schools of the city (in case of a city), and of the county (in the case of a county or town in the territorial limits of the county) which inspector is hereby constituted the local examiner for the admission of pupils to the high school or collegiate institute (as the case may be), with authority to admit provisionally thereto any pupil who shall have duly passed the required examination in the questions, and under the regulations and directions aforesaid ;

(4) Such local examiner shall prepare a return (in the form provided for that purpose) with respect to each examination, and forward the same, together with the answers of the pupils, to the Chief Superintendent of Education immediately after the examination, in order that the same may be considered and reported upon to the Chief Superintendent by said committee, who may thereupon, in such report, confirm, disallow, or cancel the admission of any pupil, or may require further tests of proficiency in any subject of the prescribed programme of examination ;

(5) The local examiner, for the services aforesaid shall be paid by the council of the county the same remuneration as is provided in respect of public school examiners by the twenty-seventh section of this Act ;

(6) In the case of a city or town separated from a county, he shall be paid by the public schools board a sum at the rate of five dollars per day while engaged in such examination ;

(7) The Council of Public Instruction may direct that pupils admitted to any high school or collegiate institute since July, 1873, shall also be subjected to examination under this section, and their respective admissions be thereupon confirmed or disallowed.

ALTERATION IN SCHOOL SECTION BOUNDARIES.

11. Every alteration made in the boundaries of a rural school section by a township council, under the restrictions imposed in the Public School Acts, shall be by-law, which shall be passed not later than the first day of May in any year ; and it shall be the duty of the township clerk to send forthwith a written notice of the alteration to the trustees of every school section affected by the alteration, and to the county inspector.

UNION SCHOOL SECTION BOUNDARIES.

12. No alteration in the boundaries of a union school section or division shall be made under the restrictions imposed by the fortieth section of the Consolidated School Act (22 Vic., ch. 64), except by the Reeves of the townships and the inspectors concerned, or by the Reeves, county inspector, and public school board (as the case may be).

TOWNSHIPS BOARDS—VALUE OF SCHOOL SECTION PROPERTY.

13. Before giving effect to the fourteenth section of the School Act of 1871, (34 Vic. ch. 33), for the formation of township boards of public school trustees, the township council may appoint the county inspector, jointly with two other competent persons, to value the existing school houses, school sites, and other school property in each and every section of the township, and upon their report to adjust the claims of every school section, in regard to the estimated value of its school house, site and other property and such manner as the township council may deem most just and equitable.

REMUNERATION TO SCHOOL SECTION VALUATORS.

14. The inspector and other persons, while necessarily engaged in the valuation of school sites and other school property shall be entitled to receive from the township council an allowance per day of not less an amount than that paid to each member of the county council for attendance at its meetings.

RURAL SCHOOL TRUSTEE LOANS AUTHORIZED.

15. The thirty-fifth section of the Consolidated School Act (22 Vic., ch. 64), shall be amended so as to read as follow :

(35.) Any township council may by by-law grant to the trustees of any school section (on their application), authority to borrow such sums of money as the trustees may deem necessary for the purchase of school sites, the erection or repair of school-houses and their appendages, or for the purchase or erection of a teacher's residence ; and in such by-law the township council shall provide for the issue of a debenture or debentures for the amount of the loan, and shall cause to be levied in each year, upon the taxable property of the section, a sufficient sum for the payment of the interest on the sum so borrowed, and a sum sufficient to pay off the principal during any period not exceeding ten years, as may be agreed upon the trustees and the lender of the money.

ENLARGEMENT OF RURAL SCHOOL SITE.

16. The seventeenth section of the School Act of 1871 (34 Vic., ch. 33), shall not be held to restrict trustees in the enlargement of their existing school site to the required dimensions : Provided that no such enlargement shall, without the consent of the owner of the land required, include any part of his garden, orchard, enclosed pleasure ground, or the grounds attached to his dwelling house.

TWO OR MORE SCHOOLS IN A RURAL SECTION.

17. Wherever from the large size of a school section, or from its physical conformation, or other cause, the children of the section are unable to attend the school established therein, the trustees may, with the concurrence of the inspector, as provided by law, establish and maintain one or more additional schools in the section, and procure or erect the necessary buildings therefor ; and each of such schools shall be subject to the same regulations and obligations as public schools generally.

ANNUAL RETURN OF CHILDREN NOT ATTENDING ANY SCHOOL.

18. It shall be the duty of the trustees of public schools to ascertain before the 31st of December in every year, through the assessor, collector, or some other person to be appointed and paid by the trustees, the names and residences of all the children in their school section, division or municipality, as the case may be, between the ages of five and sixteen years inclusive, - distinguishing those children between the ages of seven and twelve years inclusive, who have not attended any school, or who have not been otherwise educated for four months of the year, as required by the third section of the Act of 1871 (34 Vic., ch. 33) ; and the trustees, before making complaint of the same before any magistrate, as provided by the fourth section of said Act, shall, personally, or by letter or otherwise, notify the parents or guardians of such children of the neglect or violation on their part of the provisions of said third section.

RIGHT OF TEACHERS TO SUPERANNUATION ALLOWANCE.

19. Every teacher who, while engaged in his profession, contributes to the support of the Superannuated Teachers' Fund, as provided by law, shall, on retiring from the profession of teaching, as provided in the Consolidated School Act (22 Vic., ch. 64), and upon furnishing satisfactory proof to the Council of Public Instruction of good moral character, and of his age, and length of service as a public or high school teacher in Ontario, shall be entitled to an allowance or pension, at the rate of six dollars per annum for every year of such service : Every such teacher, on reaching the age of sixty years, shall be entitled to retire from the profession at his discretion : Every teacher under sixty years of age shall, in addition to proof of his age, furnish from time to time satisfactory testimony of being disabled from practising his profession ; The retiring allowance shall cease at the close of the year of the death of the recipient, and may be discontinued at any time should the superannuated teacher fail to maintain a good moral character, to be vouched for (when required) to the satisfaction of the Council of Public Instruction ; And should any pensioner, with the consent of the council, resume the profession of teaching, the payment of his allowance shall be suspended for the time so engaged, and, in such a case, a pension for the additional time of teacher shall be allowed him, on his compliance with the law and regulations, and his again being placed on the superannuation list by the Council.

SCHOOL TREASURER TO PAY OVER SUPERANNUATED TEACHERS' MONEYS.

20. The municipal or other treasurer of school moneys shall, at the end of each half year, pay over to the order of the inspector the amount of moneys in his hands, which such inspector has deducted, as required by law, from salaries of male teachers for the superannuated teachers fund for such half year.

TEACHERS' ALLOWANCE FOR HOLIDAYS, AND IN CASE OF SICKNESS.

21. Every master and teacher shall be entitled to be paid his salary for the authorized holidays occurring during the period of his engagement with the trustees, and also for the vacations following immediately on the expiration of the school term or term of his agreement with such trustees ; and in case of sickness, as certified by a medical man, he shall be entitled to his salary for a period at the rate of at not less than four weeks for the entire year ; which period may be increased at the pleasure of the trustees concerned.

TEACHERS' GENERAL AND CLASS SCHOOLS REGISTERS.

22. Every master shall keep, in the prescribed form, general and class registers, in which shall be recorded the admission, promotion,

removal, or otherwise, of the pupils in his school; which registers shall be provided for the school by the trustees thereof.

TEACHERS MUST PROSECUTE CLAIMS FOR SALARIES PROMPTLY.

23. The eighty-third section of the Consolidated School Act (22 Vic., ch. 64) shall only apply to teachers who prosecute their claim for salary within a reasonable time after it is due and payable by school trustees.

OTHER DUTIES NOT TO INTERFERE WITH INSPECTOR'S DUTIES.

24. No county or city inspector shall, during his tenure of office, engage in or hold any other employment, office or calling which would interfere with the full discharge of his duties as inspector.

ADDITIONAL ALLOWANCE TO COUNTY INSPECTORS.

25. Every county school inspector shall be entitled to an allowance from the county council, including travelling expenses, of such an amount as that council may determine, for performing the following additional duties:—

- (1.) Equalizing annually, with the Reeves, as required by law, the assessments in union school sections or divisions.
- (2.) Visiting schools, and giving special certificates to teachers in new and remote townships under the authority of this Act.

SPECIAL INSPECTORS IN NEW DISTRICTS, ETC.

26. The second and following lines of the ninth clause of the one hundred and sixth section of the Consolidated School Act (22 Vic., ch. 64) shall be amended so as to read as follows:—

- (9.) And to appoint one or more duly qualified persons, as he, from time to time, may deem necessary, to visit new and remote townships, in order to advise with and encourage the settlers to establish schools for the children, under their regulations and with the aid provided by law; or to visit and report upon teachers' county institutes, or upon any other school matter.

CERTIFICATES TO TEACHERS IN NEW DISTRICTS.

27. Any public school inspector may, under such general regulations or instructions as may be prescribed according to law, examine, and give special certificates, from time to time, to teachers in new remote townships; which certificates shall be valid in such townships for the periods mentioned in the regulations: Provided always, that, under such general regulations, it shall be competent for any inspector to endorse as valid, within his jurisdiction, any third class certificate issued by any county or city board of examiners.

ADDITIONAL ALLOWANCE TO COUNTY BOARD OF EXAMINERS.

28. The members of the county board of examiners shall be entitled to the same allowance from the county council for time and expenses as members of the county council receive, and to such additional allowance, as may be determined by such council.

ISSUE OF PROVINCIAL AND COUNTY CERTIFICATES.

29. The first proviso of the twelfth section of the School Act of 1871 (34 Vic., ch. 33), shall be altered so as to read as follows:

Provided that second as well as first class provincial certificates shall be awarded by the Council of Public Instruction, and also second as well as third class certificates by county and city boards of examiners.

CERTIFICATES TO STUDENTS OF ANY NORMAL SCHOOL IN BRITISH DOMINIONS.

30. Upon passing the requisite examination, special certificates may be issued (under the conditions prescribed by law) to any person who may have been trained at any Normal School in the British Dominions; which certificates shall specify among other qualifications, the standing of such person at such Normal School, and the extent of his ability and aptitude to teach as may be evidenced by his certificates from such Normal School, or otherwise to the satisfaction of the Chief Superintendent of Education.

GOVERNMENTS OF NEW NORMAL SCHOOLS.

31. Whenever any additional Normal School shall be established, it shall be under the same government and regulations as are provided in the Consolidated School Act, with respect to the present Normal School.

TENANTS TO BE SCHOOL VOTERS.

32. Whenever the words "freeholders or householders," or "freeholders and householders" occur in any of the School Acts, they shall be altered so as to read, "freeholders, householders (and) or tenants," as the case may be.

2. THE CHIEF SUPERINTENDENT OF EDUCATION.

The Rev. Dr. Ryerson having attained the age of threescore years and ten yesterday, the 24th instant, received addresses of congratulation from the offices of the Education Department, and of the Normal and Model Schools. The proceedings were of a private character, and were entirely unexpected by the Chief Superintendent; but as that gentleman has been in the public service since the year 1844, and has been remarkably successful in the management of a most important branch of that service, our readers will be interested in these addresses and the reply.

ADDRESS FROM THE EDUCATION DEPARTMENT.

To the Reverend Egerton Ryerson, D. D., [LL.D., Chief Superintendent of Education for Ontario.

REVEREND SIR,—The undersigned, who have had the honour of serving under you in the great work of devising, administering and endeavouring to perfect the details of our provincial system of education—some of us for many years, others for a shorter period—are desirous of availing ourselves of this happy occasion of the seventieth anniversary of your birth, in order to express the feelings of high respect and warm affection with which you are regarded by us.

Your high character and your great public services to the country have made the performance of our labours a matter of pride to ourselves as well as a pleasing duty. The equal temper, the courteous demeanour, and the impartial justice for which your administration of the Department has been conspicuous, have always afforded encouragement to faithful exertion, and inspired confidence that, while there would be little toleration for neglect of duty, there would be full appreciation of good service.

It is our earnest hope and prayer, Reverend Sir, that you may long be spared to direct the affairs of the Department in which so many years of your valuable life have been spent. It has been your privilege to devote a ripened and matured experience, and an extraordinary energy, to the work of fostering and promoting the intellectual wealth and the moral welfare of the youth of your native land. As you approach the evening of life you will enjoy the reflection that, by Divine permission, and with the ready cooperation of the people, you have been enabled to lay a solid foundation for the future development of mental culture and true civilization in a noble Province.

Among the many who will always hold your name in honour, be assured, Reverend Sir, that none will be more devoted than ourselves, and we now beg that you will accept of our hearty wishes for your present and future happiness, and for many glad returns of the day.

ADDRESS FROM NORMAL AND MODEL SCHOOLS.

To the Reverend Egerton Ryerson, D. D., LL.D. Chief Superintendent of Education for the Province of Ontario.

REVEREND AND DEAR SIR,—It is with feelings of unfeigned pleasure that we, the teaching staff of the Normal and Model Schools for Ontario, embrace this opportunity to offer you our congratulations upon your having reached your seventieth birthday. We congratulate you on the fact that, though you have for so many years laboured in the cause of education, and striven to bring the educational system of our Province to its present proud position, still the hand of time has dealt gently with you, and that to-day you stand before us, "with strength unabated," in the full vigour of a green old age, an example of what may be achieved by perseverance in the path of duty. We rejoice to think that your right hand has not yet forgotten "its cunning," but that, if needs be, you still are able, as of old, to wield "the pen of a ready writer."

The number of years during which we have acted under you as Chief Superintendent—most of us graduates of the Normal School—varies with each of us; but we all rejoice to think that so auspicious an occasion has been presented to us for assuring you that, from the oldest to the youngest in our several positions, we entertain the most kindly appreciation of all your efforts to raise the status of our profession generally, and of the many acts of kindness of which we may, from time to time, have been individually the recipients.

Once more, Reverend Sir, we tender you our heartiest congratulations, and beg that you will assure Mrs. Ryerson also that her joy is not unshared by us. That you may be spared for many years to preside over the educational interests of the Province, and to administer counsel to ourselves and our successors, is the hearty desire of us all, for we feel confident that, so long as your hand guides the helm, the welfare of the Normal and Model Schools will never be neglected. But should you see fit to lay aside the cares of office, and enjoy the evening of your days in retirement from the anxieties

of official life, we feel that in no case can the maxim be more truly applied than in yours,

Finis Coronat Opus.

The addresses having been read, Dr. Ryerson made a verbal reply to the following effect:—

MY CHRISTIAN FRIENDS OF THE EDUCATION DEPARTMENT AND OF THE NORMAL AND MODEL SCHOOLS,—I am taken entirely by surprise; for among the last things that I had this day expected were the addresses which you have just read, and I am entirely unprepared to address to you the grateful remarks which I might have made under other circumstances. The arrival to me of three score years and ten—the highest period of existence which God has ordinarily granted to man—has produced in my own mind feelings of deep solemnity, and has awakened thoughts similar to those of commencing a new state of existence. Among the most pleasing recollections of my past life are my official associations with you; in which associations I have never regarded you as *employes* under me, but as sons, and I may say of daughters also, assisting me in a great and good work—and I can truly say that I have always endeavoured in the tone and character of my intercourse with you, to make you all feel as members of one family, in each of whose individual welfare I took parental interest. I have had no favourites; not one of you owes his or her position to any feelings of peculiar partiality on my part, but to your own virtues, qualifications and merits; and it is to me a source of unalloyed satisfaction that I have been enabled so to conduct myself towards you as to ensure your individual confidence, respect and good will. I derive also peculiar satisfaction from the reflection that, while I have required from every one of you a faithful discharge of your duties, I have had occasion in no single instance to administer reproof to any for impropriety or neglect of duty. I cannot expect always to occupy my present position. I do not desire any release from labour, though I sometimes desire a change of labour. But whether I remain at my present post for a longer or shorter period, it will be my aim in the future, as it has been in the past, to do all in my power to promote your individual success, comfort and usefulness. I regret beyond what I am able to express that I have not been able to accomplish for you all to which I believe your services and merits have given you a just claim; but I can assure you it has not been for any want of effort on my part. I know that from this establishment, in its administration, and from its Normal and Model Schools, an influence has gone forth which is felt in the remotest parts of the Province; and I trust that the salutary influence of the past will be found only a faint emblem of that which will be witnessed in the future throughout the length and breadth of the land. I pray that the Divine protection may continue over our work and over us individually; and while I most sincerely thank you for your kind congratulations, I feel no one circumstance more consoling, with the sense of advancing years, than the conscientiousness that after so many years of official relations and united labour, I enjoy your individual respect and good will.

3. EDUCATION RETURNS FOR THE HOUSE OF ASSEMBLY.

The following educational returns were asked for by the House of Assembly during the present session:

Mr. Clarke (Wellington)—A return of the number of children attending the Public and High Schools of Ontario from 30th of June 1871 to 30th of June 1872; and of those attending private schools in so far as the same can be ascertained from the annual school returns; and of the number of children of school age in Ontario as reported in the annual returns of 1871.

Hon. E. B. Wood—That the Chief Superintendent of Education do with all convenient dispatch, lay before the House a return stating concisely:

1. The date of the establishment of the Normal and Model Schools in this Province.
2. The total outlay on capital account in respect of the said schools including the purchase of lands and every expenditure strictly chargeable to capital account.
3. The annual outlay since the establishing of the said schools including staff of teachers, superintendence, maintenance and every expenditure not charged to capital account.
4. The names of the persons in each year with their places of residence who have received instruction at the Normal School with the view of fitting themselves for teaching in this Province, and the average number of them who have made and are still making teaching their profession, and how many of such teachers are now teaching in the Province, and in what counties they are now teaching.

5. The average cost to the country, including interest at six per cent. on the said capital outlay, for the training of each teacher who has made teaching in this Province a permanent occupation.

Mr. S. C. Wood—Return of copies of all correspondence between any member of the Executive Council of this Province, the Council of Public Instruction, the Chief Superintendent of Education or other member of the council, since the passing of the Act 35 Vic., chap. 30 "making temporary provision as to the regulations of the Council of Public Instruction", and since the date of the last return from the Educational Department.

Mr. S. C. Wood—Return for a copy of the regulations of the Council of Public Instruction, and other instructions relating to the admission of pupils to the High Schools or Collegiate Institutes.

2. A copy of the Order in Council suspending or disallowing these regulations, and a copy of any instructions issued by Government to boards of trustees on this subject.

3. The number of pupils admitted to each High School and Collegiate institute since the suspension of these regulations, the name of the schools and institutes, and of the examiner and the subjects on which the candidates were examined, the extent of the examination in these subjects, and the number of marks obtained by these pupils.

4. Copies of any reports to the Education Department, or to the Government in regard to the examinations and admissions from inspectors, trustees or other parties, and copies of any correspondence or reports throwing light upon the operation of the law since the date of the suspension of the regulations on the subject.

Mr. S. McCall—A return stating the number of scholars attending the Normal School for the purpose of qualifying as school teachers for the years 1869, 1870, 1871, 1872 respectively. Also the largest number of pupils the present Normal School is capable of accommodating throughout a session thereof.

Mr. Cook—A return of the number of first, second and third-class certificates granted to school teachers during the year eighteen hundred and seventy-two; also the number of persons who have made application for certificates and have been unable to obtain them during the same year.

Mr. M. S. McDonald—A return for copies for all Orders in Council (if any) and correspondence (if any) in reference to the establishment in Ontario, of any additional Normal Schools.

II. Education in Various Countries.

1. AN ACT TO COMPEL CHILDREN TO ATTEND SCHOOL IN MICHIGAN.

SECTION 1. *The People of the State of Michigan enact, That every parent or guardian in the State of Michigan having control and charge of children between the ages of eight and fourteen years, shall be required to send such children to a public school for a period of at least twelve weeks in each year, at least six weeks of which shall be consecutive, unless such child or children are excused from such attendance by the board of the school district in which such parents or guardians reside, upon its being shown to their satisfaction that his bodily or mental condition has been such as to prevent his attendance at school or application to study for the period required, or that such child or children are taught in a private school, or at home, in such branches as are usually taught in primary schools, or have already acquired the ordinary branches of learning taught in the public school; Provided, In case a public school shall not be taught for three months during the year, within two miles by the nearest travelled road, of the residence of any person within the school district, he shall not be liable for the provisions of this Act.*

SEC. 2. It shall be the duty of the director of every school district, and president of every school board within this State, to cause to be posted three notices of this law in the most public places in such district, or published in one newspaper in the township for three weeks, during the month of August in each year, the expense of such publication to be paid out of the funds of said district.

SEC. 3. In case any parent or guardian shall fail to comply with the provisions of this law, said parent or guardian shall be liable to a fine of not less than five dollars or more than ten dollars for the first offence, nor less than ten or more than twenty dollars for the second and every subsequent offence; said fine shall be collected by the director of said district in the name of the district, in an action of debt or on the case, and when collected shall be paid to the assessor of the district in which the defendant resided when the offence was committed, and by him accounted for the same as money raised for school purposes.

SEC. 4. It shall be the duty of the director or president to prosecute any offence occurring under this Act, and any director or president neglecting to prosecute for such fine within ten days after a written notice has been served on him by any tax-payer in said district, unless the person so complained of shall be excused by the district board, shall be liable to a fine of not less than twenty or more than fifty dollars, which fine shall be prosecuted for and in the name of the assessor of said district, and the fine when collected shall be paid to the assessor, to be accounted for as in section three of this Act.

2. DEAF MUTE EDUCATION.

"Providence helps those who help themselves" is a maxim of authority, and one the truth of which we often see exemplified. It is a piece of philosophy, too, which probably furnishes people sometimes with a plausible excuse for refusing aid to those who apparently will not exert themselves in their own behalf. But a maxim of this sort entirely fails in its application when the objects appealing for assistance are persons deprived of some of the faculties which are indispensable to success in the battle of life. The deaf and dumb, and the blind, enter upon the race heavily burdened, and the awakening and development of their intellectual powers bring the melancholy conviction that to them the struggle must ever be an unequal one, and success but comparative. This portion of the community can never fail to awaken the sincerest feelings of compassion, and the best method of assisting them to make the most of their limited powers must claim the most earnest consideration. We are glad, therefore, to see increasing attention given to the class thus thrown upon the kindness of their more amply endowed fellows.

One of the most interesting matters connected with the education of deaf mutes is the greater degree of attention given to articulation, as a medium of education. From the observations of a lady connected with an institution for deaf mutes in the State of Massachusetts, who recently paid a visit to Europe, it appears that the use of signs is giving place in many instances to the practice of articulation. Miss Rogers, the lady referred to, visited twenty-two European establishments for deaf mutes, of which fifteen taught by articulation, or what is commonly called the German system, and seven by signs, or the French system, which is the one that has been generally used in this country. In three or four of the seven schools, articulation is also taught. The schools visited were one each in Holland, Belgium, Switzerland and Italy, six in England and twelve in Austria and Germany. To such an extent has articulation been adopted in Germany that Miss Rogers could hear of no school in Germany using the French system; and but one in Belgium, where formerly it was used in all the schools. In England also articulation is gaining ground. Most of the schools visited were small; none of the German schools that she saw containing more than 130 pupils. Several had only day pupils; as, for example, Mr. Hirsch's celebrated Dutch school at Rotterdam, with 100 day pupils; one at Weissenfels with 52, and one at Osnabruck with 50. We believe that it is contemplated to devote more attention to the same point in the Institution at Belleville, Ontario.

Miss Rogers also made some observations upon the management of schools abroad, which are of interest. At the schools visited all the pupils board in private families, selected by the directors, and there, as in Berlin, where about half the pupils board out in this way, the arrangement has long worked well. At the Rotterdam school, during the last two or three years of the course, the boys are apprenticed to trades in the city and devote the afternoons to their work,—an arrangement of which Miss Rogers thought very favourably. The average age of pupils she thinks is less in Europe than in the United States, and the teaching is much more generally done by men. She found no women teaching in the German deaf mute schools, but several such teachers in Switzerland and England—*Monreal Gazette*.

3. SYLLABUS OF LATIN PRONUNCIATION.

DRAWN UP AT THE REQUEST OF THE HEAD-MASTERS OF SCHOOLS.

The Head-masters of Schools, at their Conference held in 1871, declared the system of Latin pronunciation prevalent in England to be unsatisfactory, and agreed to ask the Latin Professors of Oxford and Cambridge 'to draw up and issue a joint paper to secure uniformity in any change contemplated.' This request they repeated at their meeting of 1872. As we are ourselves agreed in all essential points, and find that there is a considerable body of opinion in the Universities and elsewhere in harmony with our views, we beg to offer the following brief suggestions.

If it were thought advisable to adopt any existing pronunciation, we should be inclined for many reasons to recommend the Italian,

with perhaps a few modifications. But not to speak of other difficulties, the tyranny of accent over quantity is at least as marked in the Italian as in the English reading of Latin; and we hold with the most experienced teachers that to distinguish between long and short syllables is an essential part of a reform in pronunciation. At the same time Italian appears to us to offer many valuable aids which should not be neglected; as English in its tones and vocalisation seems so different from old Latin, that often it is not easy to find in it even single sounds to give as adequate representations of an old Latin sound. The Italian of literature has been fixed for six centuries, and manifestly approximates to the Latin of the 7th or 8th century.

There can be little doubt that during the best ages the writing, as seen in inscriptions, was meant to represent exactly the sounding of words, and that a difference of spelling implied so far a difference of pronouncing.

We propose then that the letters of Latin should be sounded as follows:

Vowels and diphthongs:

a, as accentuated Italian *a*: i. e. as the middle *a* of *amata*, or as the *a* of *father*:

ā, as the unaccentuated Italian *a*: i. e. as the first and last of *amata*. It is not easy to represent this sound in English: we know nothing better than the first *a* in *away*, *apart*, *aha*.

e, as the Italian closed *e*: *arena*; nearly as *ai* in English *pain*:

æ, as the Italian open *e*: *secolo*: nearly as the first *e* in English *there* or French *père*.

ē, the same sound shortened; nearly as in English *men*. A wide induction, extending from classical lines to the present, would support what is said of *e*, *æ*: thus Italians represent Latin *æ* always by their open *e*, and as a rule *ē* by closed *e*, *ē* by open *e*.

i, as accentuated Italian *i*; i. e. as the first *i* of *timidi*, or the *i* of *machine*: *ī* as unaccentuated Italian *i*: i. e. as the two last *i*'s of *timidi*, or the *i* of *pity*. The way in which Italian *i* is represented in Greek on the one hand, and in Italian on the other, and its history in Latin itself, would tend to show that its actual sound approximated to that of *e*, and was something between the *i* of *pity* and the *e* of *petty*.

ō, as Italian closed *o*; nearly as in German *ohne*, English *more*.

ō, as Italian open *o* shortened: nearly as in German *gold*; less nearly as in English *corn*. The English and English-Latin *o* is very peculiar, in most cases hardly an *o* at all: compare our *honor*, *domos*; and our *non*, *bos*, *pons* on the one hand, with *nos*, *hos*, *domum* on the other.

Perhaps, comparing Italian, we should pronounce *ū*, when it precedes *r*, or when it represents *au*, as the Italian open *o*: *gloria*, *Victoria*, *plastrum*, *Clodius*.

ū, as accentuated Italian *u*: as the first *u* of *tumulo*, the second of *tumulto*, or as *u* in *rule*, *lure*.

ū, as unaccentuated Italian *u*: as the second *u* of *tumulto*, the first of *tumulto*, the *u* of *fruition*.

au, as Italian *au*; nearly as *ow* in English *power*.

In genuine Latin words the other diphthongs are very rare, except in archaisms where *ei*, *oe*, *oi* or *ou* are common enough.

eu, as Italian *eu*, or Latin *ē* quickly followed by Latin *ū*. Of Latin words we find perhaps only *heu*, *ceus*, *seu*; and we do not feel competent to propose a different sound for it in the many Greek words adopted into Latin.

æ is also very rare in Latin words: for them, as well as for Greek words, we should prefer a sound like the German *ä*: as an alternative we propose the open Italian *e* for *æ*, as before for *æ*.

ei too as a diphthong is very rare: we would give it the Latin *ē* sound quickly followed by a Latin *i* sound.

But in a large class of words containing *ai*, *ei*, *oi*, *ui*, the *i* is a semiconsonant, and should be sounded like English *y*: pronounce *Græius*, *maior*, *Troia*, *euus*, *Pompeius*, *Seianus*, *cuius*, as *Grä-yus*, *mā-yor*, *Trō-ya*, *ē-yus*, *Pompē-yus*, *sē-yanus*, *cū-yus*: *eicit*, *reicit*, as *ē-yicit*, *rē-yicit*. The *o* or *e* of *proin*, *prout*, *dein*, *deinde*, when not forming a distinct syllable, does not form a diphthong, but is elided, before an initial vowel: so in *neūtiqum*, *e* is elided.

In a fuller discussion more might be said of the consonants: a few remarks must suffice for the present.

c, always as *k*: in *Cicero*, *facies*, as well as *Cacus*.

g, always as *g* in *get*: in *gero*, *gingiva*, *gyrus* as well as *gaudeo*.

s, at the beginning and end of words, and at the beginning of syllables, and before consonants, is always sharp, (as the *s* of *sin*) in Italian and should be so in Latin: *sul*, *stella*, *de-sero*, *ni-si*, *nos*, *sonus*.

z, between two vowels, has in Italian a soft *z* sound, as in our *rose*: we should thus sound in Latin *rosa*, *musa*, *miser*. But words of this kind in Latin are but few: much more numerous are those where *s* might also be written *as*, a lost consonant having been assimilated and the vowel always lengthened *curasa*, *casus*, *visus*, *odiosus*,

dieitio, (see Quintilian i, 7, 20). Italian is very suggestive; and in all these cases *s* should be sharp.

t is always a pure dental, in *ratio* as in *ratia*, in *notia* as in *notus*, in *vitium* as in *vita*.

bs, *bt* should be sounded (and generally written) as *ps*, *pt*: *lapsus*, *aps*, *apens*, *optulit*, *supter*.

j, or consonant *i*, as *y* in *yard*.

As to consonant *u*, or *v*, we believe that its sound was as near as possible to that of the vowel *u*: i. e. like the *ou* of the French *oui*, not differing therefore much from the English *u*. But as there is great diversity of opinion on this point, we propose to leave it an open question, whether it shall be pronounced in this way, or as the English and Italian *v*.

y, *z*, *ch*, *ph*, *th* were brought into the language to represent Greek sounds: *z*, *ph*, *th* we propose should be sounded as at present: *ch* should never be pronounced as in our *charter*: it would be better to give it a *k* sound succeeded by an *h* sound: but it must follow the fortunes of Greek *χ*, *γ*, or Greek *ν*, had some middle sound between Latin *u* and *i*, perhaps resembling either French *u* or German *ü*; but *y* or *j* came probably much nearer to *i* and *ē* than to *ū* or *ü*.

In our Latin pronunciation quantity is systematically neglected; attention to it seems essential in any reformed method: *ā* and *ī* should be distinguished in *matris* and *patris*, as in *mater* and *pater*. The ancients observed the natural length of vowels, when the syllable was also long by position: as in *Marcius*, *pastor*: Cicero tells us that every vowel when followed by *us* or *us* became long by nature: as in *infinitus*, *insanus*: *gn* seems to have had the same power over the preceding vowel. Often too an extruded consonant leaves a naturally short vowel long: *e* from *ex*: *es*, *est* from *edo*: *Sextius* (*Séxtios*), but *Sextius* (*Séxtios*). On the other hand the long vowel of many final syllables in time became short: and we can scarcely suppose that while the naturally long vowel in *amat*, *docet* was shortened, it always remained long in *amant*, *docent*: it seems certain also, whatever the reason may be, that the *e* was short in *docentis*, etc., as much as in *legentis*, *audientis*.

Following the traditions of the Italians, we fortunately keep the accent in most cases on the right syllable, though the loss of quantity has changed its nature. In a summary like this we cannot dwell on the exceptions.

In respect of elision we may see, by comparing Plautus and Terence with Ovid, how much the elaborate cultivation of the language has tended to a more distinct sounding of final syllables. We must not altogether pass over the elided vowel or the elided syllable which ends in *m*, except perhaps in the case of *ē* in common words, *que*, *neque*, and the like. How far two final *m* was mute, or nasal, it is not easy to determine. *est* 'is' seems often in pronunciation (and in writing) to have lost its *e* and become an enclitic *st* after a vowel or *m*: thus *tuo est*, *meum est* can end an Ovidian pentameter, *labori est* an Hexameter: we must therefore pronounce *tuoest*, etc.

EDWIN PALMER,
H. A. J. MUNRO.

—(Educational Times.)

4. A GIFT TO SCIENCE.

Some time since Professor Agassiz in an address before the Legislature of Massachusetts called the attention of that body to the need and value of a summer school for the instruction of both teachers and students in natural history. He also suggested that, during the coming summer, a session should be held on the island of Nah-tucket. These remarks attracted the attention of Mr. John Anderson, a wealthy and well known tobacco merchant of this city, who with great munificence has donated an entire island for the purposes of the institution, supplementing his gift with a fund of \$50,000. The island, which bears the name of Penikese, is of about one hundred acres in extent and is situated in the Elizabeth group, at the entrance of Buzzard's Bay on the southern coast of Massachusetts. It has been largely improved, and contains several buildings valued at \$100,000, while the fertility of its soil is such as to render it possible to raise sufficient produce to pay all expenses of the school.

Professor Agassiz considers that the site is eminently suited for the purpose as affording ample opportunity for original investigation as well as instruction. The institution will be carried on throughout the year, in connection with the museum of Cambridge, and measures will be speedily taken to prepare the buildings for use.

5. A CHAT ABOUT WORK AND STUDY.

Many of the most notable results of human thought have come from the brains of men whose hands were busy with work.

Benjamin Franklin was obliged, as a journeyman printer, to be a very slow and careful reader of books. In this way he thoroughly

digested what he read; a slow but gradual development of power was the result. He was a working-man and a philosopher.

Robert Stephens and his son Henry were laborious printers and also learned men. The father wrote a thesaurus of the Latin language, and, De Thou says, "did more to immortalize the reign of Francis I. than all the monarch's own most famous exploits." The son wrote a thesaurus of the Greek language, the result of twelve years' hard application and study, which is well known among the learned.

Brindley, the famous engineer, worked as a carter, ploughman and millwright till the age of manhood. His observations in this last trade, aided him in the construction of the Bridgewater Canal, with its tunnels, aqueducts and locks.

Bewick, the successful engraver on wood, and author of the "History of Quadrupeds," studied from early boyhood the habits of animals, and these observations caused his attempts at drawing, in which he afterward became proficient.

Watt's steam-engine, if not the unavoidable, was at least, a natural, result of his thoughts and pursuits.

Ferguson, while he watched his father's sheep, studied astronomy, and early in life had his thoughts busy with mathematical problems.

The life of Rittenhouse was very similar. He drew geometrical diagrams on his plough, and studied them as he turned the furrows.

Sir Humphry Davy was the son of a poor wood-carver, and himself an apprentice to an apothecary. We can hardly suppose that with his excessive vanity he would have added as much to science had he been a gentleman's son.

Columbus, while leading the life of a seaman, became the best astronomer and geographer of his age. It was under the same circumstances that Cook acquired his scientific and literary accomplishments.

Homer was a poor man, and wandered from place to place, observing the customs and countries he afterward described in his two poems, especially in the "Odyssey."

The success of the "Georgics," Virgil's most finished poem, is due to the writer's knowledge of rural life.

Milton was an accomplished man of the world, knew much of men and countries, and displayed an especial fondness for athletic sports.

It is difficult to believe that some of the finest specimens of the dramatic poetry of Ben Johnson were written during the leisure that comes to a labouring mason, and in the intervals of inactivity in a soldier's life.

Burns worked for years as a farmer, and from his intimate communion with nature came the inspiration of many of his sweetest songs.

Scott in all his writings shows the careful observer of men and things, and by his fidelity of description has given an added charm to history.

Dante wrote his "Inferno" after an engagement in civil strife in which he was defeated and proscribed.

Descartes while a soldier laid the foundation of his mathematical discoveries.

Cervantes, as a soldier, was detained five years a captive in Algiers. Giffard's early life was one of privation and hardship.

It was the persevering use of bodily exercise that overcame the natural defects in Demosthenes' voice, and in the bodily organization of Cicero. Plato led a life of vicissitudes, and for many years followed the example of his illustrious master Socrates. Pythagoras in early life became proficient in gymnastic exercises. When eighteen he received the prize for wrestling in the Olympic games. When Greece could afford him no more, he travelled, and in this way added vast and varied information to his already well-stored mind. He advocated and carried out views which it would be well for those interested in introducing this feature to imitate.

Many of the best historians describe the scenes in which they themselves were busy actors. Among many, these names may be mentioned: Herodotus, Xenophon, Polybius, Julius Cæsar, Sir Walter Raleigh, Frederick the Great, De Thou and Clarendon.

It is a matter of great regret that the most reasonable and natural system of education should have been so long neglected.—*To-Day*.

THE RECENT EXAMINATION.

Specimens of Miss Anna Living's answers to questions in English Literature and History.

English Literature.

Q. 1. Give some account of the principal Latin Writers of the Norman times. What were the Romance tongues of France?

The principal Latin poet of the Norman times was Joseph of Exeter. His chief works are two epic poems—one on the Trojan War, noted for the purity of its Latin; the other, on the Third Crusade, exists now only in the manuscript form.

The principal historians were William of Malmesbury, born about the time of the Conquest; Geoffrey, of Monmouth; and Gerald Barry. William of Malmesbury's chief work is a history of England, from the Saxon conquest to the year 1120. There is in this work a more exact balancing of facts, and fewer absurd legends than in the histories written previously to his time. Geoffrey of Monmouth's chief work is a history of the British Kings. The history of Arthur, and his Knights of the Round Table, forms the most interesting part of the work. Gerald Barry also wrote a history of the Britons.

In France, the Romance tongues broke into two dialects, named from the words "oïl" and "oc," used instead of our "yes." The language of oïl was spoken in the north, and the language of oc in the south of France. The Langue D'Oc was sung by the famous Troubadours. It was trampled out by De Montfort in his Albigensian Crusade, and exists now only as the rude patois of the province that now bears its name. The Langue D'Oïl was introduced into England by the Norman conquest, and has in many ways influenced our English Literature.

ANNA LIVING.

2. Notes on Sir Walter Raleigh, Goldsmith, and Burns.

Sir Walter Raleigh—educated at Oxford, went at seventeen to France as a volunteer, in the cause of the Huguenots. After five years' active service, he returned to England, and went with his half brother, Sir Humphrey Gilbert, to North America. Returning none the richer after two years, he was sent with an army into Ireland, to fight against the rebel Desmonds. He won the favour of the Lord Lieutenant, who entrusted him with despatches to Queen Elizabeth. He soon became a great favourite with the Queen, was knighted, was made overseer of the wine sellers, and received a grant of several thousand acres of Irish land. Upon the accession of James I. he lost favour, and was arrested upon a charge of having taken part in a conspiracy to place Arabella Stuart upon the throne. After a trial at Winchester, he was thrown into the Tower, where he lay for 13 years. During his imprisonment, he wrote his great work, "The History of the World." Commencing with the creation, it ends with the second Macedonian war. It is distinguished by a fine antique eloquence, and a depth of learning which we are not prepared to find in Raleigh. A tinge of melancholy, owing doubtless to the circumstances under which it was written, pervades the whole work. At length, weary of his confinement, he offered to disclose an unwrought gold that he had discovered in one of his expeditions up the Orinoco, as the price of his freedom. Vessels were furnished him, and he set out; but on arriving at the Town of St. Thomas, he found the Spaniards prepared to oppose his landing. An engagement took place, in which Raleigh was defeated; he was, therefore, obliged to return to England. To appease the Spaniards, whom James was desirous of conciliating, he was beheaded, 1618. His other works are a narrative of his cruise to Guinea, and several poems.

ANNA LIVING.

Goldsmith, the son of a Protestant clergyman, was born in Ireland. By the aid of his uncle Contarine, he was educated at Trinity College, Dublin. He was very idle and unruly, and took only a very low B.A. After leaving college, he endeavoured to set up as a doctor, tutor, clergyman, and lawyer. Failing in his attempts, he set off on a pedestrian tour of Europe, and travelled through France, Italy, Switzerland, &c. On his return to England, he made several unsuccessful attempts to set up as a medical man, before he finally adopted letters as his profession. For several years he wrote for the periodicals and magazines of the day. For Smollett's Magazine he wrote many fine essays, also letters describing a Chinaman's impressions of England. The latter attracted considerable attention. About this time he formed the friendship of Johnson, who aided him in many difficulties. Once, when arrested for debt by his landlady, he sent for Johnson, who hastened to him at once. Goldsmith produced his "Vicar of Wakefield," which Johnson (recognizing it as a work of great merit) took to a bookseller, and sold for sixty guineas. Before its publication, however, Goldsmith had become famous by the appearance of the "Traveller." Though the sale of his works now brought him in plenty of money, his extravagant style of living, and his lavish generosity, kept him constantly in debt. To remove the load, he commenced a number of works, a "History of England," "Histories of Greece and Rome," and a successful comedy, "She Stoops to Conquer." At length, with his hands full of unfinished work, and the knowledge of numerous debts, his last illness seized him, and in 1774 he died. His other chief works are, "The Good Natured Man," "Enquiry into the State of Polite Learning in Europe," and "The Deserted Village."

ANNA LIVING.

Burns was an Ayrshire ploughman. When eleven years of age, he was taken from the village school to aid his father on their little farm. From the time of his leaving school, with the exception of a fortnight's French, and a quarter at land surveying, he received no instruction but what he drew from his scanty library. At length, finding it impossible to make a living off their barren soil, he determined to go to Jamaica. In order to raise funds, and prevent his name from being quite forgotten, he had several hundred copies of his poems printed and scattered through the bookseller's shops. The sale of the book was rapid, and when all expenses were paid, twenty guineas remained for Burns. His passage was taken, when a letter from a literary man in Edinburgh, praising his work highly, induced him to alter his plans, and set out for Edinburgh instead of Jamaica. On his arrival in Edinburgh, he was patronized and caressed by all the literary men of the day. Dinners were made in his honour, subscriptions raised for a second edition of his works, and then the novelty having worn off, he was neglected and forgotten. The rest of his life was sad. Debt pressed upon him heavily. He gave way to intemperance, and sank into an early grave. Burns is chiefly remembered for his songs. His best poems are, "To a Daisy," "To a Mouse," "The Cottar's Saturday Night," a beautiful picture of domestic life, and "Tam O'Shanter."

ANNA LIVING.

4. Brief comments on "The Rape of the Lock," "The Task," and "Clarendon's History of the Great Rebellion."

"The Rape of the Lock," an epic in miniature, presents the finest specimen of the mock-heroic style to be found in English verse. A desire to break down a coolness that had arisen between two lovers, by the cutting off of a tress of the lady's hair by her lover, caused Pope to write this work. The machinery of the poem he borrowed from the Rosicrucian doctrine, that the four elements are inhabited by gnomes, sylphs, &c. Most comically he brings this to act upon the story which reaches its climax, when an unfortunate sylph, in her eagerness to save the imperilled lock, gets between the blades of the scissors, and is snipped in two. After a fierce conflict, the tress flies up to heaven, and takes its place among the stars.

"The Task" consists of six books. It was written by Cowper, for a lady who asked him to write her some blank verse, and gave him the sofa as a subject. In the first book he proceeds from a humorous historical description of the gradual improvement in seats to describe the pleasures of a country walk, and contrasts rural and city life, giving loving praise to the former. The second book, entitled "The Timepiece," begins with a just denunciation of slavery, and shows the blessing and need of peace. The other books, entitled "The Garden," "The Winter Morning," "The Winter Morning Walk," and "The Winter Walk at Noon," all show the innocent recreations and gentle loving nature of the author.

"Clarendon's History of the Rebellion" is not in all things a true history of the civil war, as he was absent from England during the greater part of the struggle. It is very unequally written. In some parts are passages of glowing eloquence, while in others sentences are tangled together in utter defiance of the rules of grammatical construction. Yet, even in these, the sense is never obscure. As a specimen of historical portrait painting, it stands unrivalled.

ANNA LIVING.

HISTORY.

- Q. 6. (a.) Describe the circumstances under which the institution of the class of magistrates, called Tribunes of the Plebs, took place. What was the number of the Tribunes? How long did they hold Office? What powers and privileges did they possess?
- (b.) What concession was made to the Plebians by the Licinian Rogation?
- (c.) Describe the part taken by Tiberias Gracchus in the struggle between the masses of the people and the nobility.
7. Give an account of the career of Philip, Father of Alexander the Great.
8. Give a sketch of the reign of Henry IV. of France.
6. (a.) There were in Rome at this time, two classes, the Patricians and the Plebeians. The latter were driven to madness almost, by the oppression of the Patricians, who were their creditors. At length the Plebeians, rather than take the field against the Volscians, seceded to Mons Sacer, where some talked of founding a rival city. The Patricians, in alarm, granted their demands. Slaves for debt were set free, and, greatest privilege of all, two of the Tribunes were henceforth elected from the Plebeians. The number of Tribunes of the Plebs was two. This was afterwards increased to ten. They held office for one year, during which their persons were sacred, and by the word "veto," I forbid it, they could annul any decree of the Senate.
- (b.) One of the two consuls was appointed from the Plebeians after the passing of the Licinian Rogations.

(c.) Tiberius Gracchus proposed an agrarian law, which proposed limiting the quantity of land held by individuals, and dividing the surplus land among the poor. When Octavius pronounced the veto, Tiberius secured a vote of the Tribes, expelling him from the Tribuneship.

(7.) Philip spent the early part of his life in Thebes, where he was detained as a hostage. While there, he studied Greek literature and politics, and when he returned to Macedon in 359 B.C., as its king, he organized a large army, which soon became a weapon of victory. His first steps were the seizure of Amphipolis, and the establishment of a military station at Philippi. Seizing his opportunity while the Athenians were engaged in a Social War, he interfered in the sacred war that arose between Thebes and Phocis. A victory over the Phocians left him master of Thessaly. He then overran Phocis, and gained a seat in the Amphictyonic Council. By laying siege to Perinthus and Byzantium, he first came into conflict with the Athenians. He was forced to raise the sieges of those cities, but a great defeat of the Athenians at Elatea brought about an alliance between Athens and Thebes. The allied forces suffered a terrible defeat at Cheronea, and Athens gladly accepted the humiliating terms of peace offered by Philip. Just two years after, in the noon of his glory, he was slain by an assassin during the procession of a marriage feast, 336 B.C.

8. Henry IV., first of the Bourbons, ascended the throne in 1589. Before he could consider his crown secure, he had to destroy the Holy League. This he did effectually, by the victories of Arques and Ivry (1590). In order to gain over the Romanists, he recanted his Protestantism. In 1598, however, he published the Edict of Nantes, granting to the Huguenots liberty of religion, and right to hold office. Sully was his chief adviser during most of the reign. The latter part of his reign was devoted to reforms in taxation and general government. In 1610 he was murdered by an assassin, who stabbed him through the window of his carriage, as he was setting off to head an army on the Rhine.

ANNA LIVING.

III. Mathematical Dept. & Correspondence.

To the Editor of the Journal of Education.

SIMCOE, January 2nd, 1873.

SIR,—Observing in the November issue of your *Journal* three solutions of a problem, which, it would seem, Mr. Cameron got inserted in the *Journal* for April, 1872. By some mistake either of the Department, or the Post-office of this place, I never got April's issue of the *Journal*, consequently, I cannot enter into the merits of the problem, beyond the ex-parte view given of it by Mr. Ryerson and the Mathematical Editor of the *Journal*. I will, however, say, from my knowledge of Mr. Cameron, being a fellow-contributor of mine to the Mathematical Department of a London periodical, that he invariably solved his problems upon correct mathematical principles. How he obtained the 21½ per cent. I cannot divine, but with the 10½ per cent., as given "by a majority of the commercial men of a western town," I agree, as being in accordance with the rule called "Equation of Payments," that is, viewing the problem as one belonging to simple interest, to which no well-trained mathematician would for a moment assent that it belonged.

Equated time $\frac{160(1+2+3+4+5)}{160} = 5\frac{1}{2}$ years.

$$r = \frac{600}{1000 \times 5\frac{1}{2}} = .10\frac{10}{11}$$

But "Equation of Payments" is founded upon "the supposition that what is gained by keeping certain payments after they become due, is equal to what is lost by paying other payments before they become due. This, however, is not exactly true: for the gain is the interest, while the loss is equal to the discount." In other words, when we solve problems according to this rule, which is by no means a correct one, we take into consideration interest as counteracting "discount," will the mathematical editor then be kind enough to indicate where he has obtained the "text book principle," which informs him that he is to subtract interest afterwards, when by the employment of this rule he supposes it to be expunged by the discount. Besides, from the very nature of the problem, which is drawn from business transactions taking place every day in the office of "The Building Association," the equated time for the ten annual payments of 160 dollars each, and to discharge a debt not of a thousand dollars but of sixteen hundred dollars, is five and a half years.

The mortgage given as collateral security for the debt, states that for one thousand dollars of current funds, well and duly paid, the mortgagor agrees to pay one thousand six hundred and forty dollars in ten equal annual payments of one hundred and sixty-four dol-

lars and fifty cents. This is done in order to avoid the idea of compound interest, which is inimical to the principles of common law though not of equity, as Mr. J. Ryerson justly states. But no power on earth can prevent this problem, and that of its converse mentioned by Professor McLellan in the January issue of the *Journal*, from coming under the principles of compound interest; inasmuch as the yearly payment is made with two objects in view, namely, to discharge one year's interest of the principal, and cancel a portion of the debt. Upon this view of the case has Mr. J. Ryerson proceeded, and has ascertained the correct rate per cent. But this is at compound interest, which it is the object of this communication to prove.

Without further preface then, I shall repeat the problem given by Professor McLellan and that of its converse given by Mr. Cameron, and shall employ the same principles to resolve them both.

1st.

A man bought a farm for \$5000, and agreed to pay principal and interest (6 per cent.) in four equal annual payments. Find the annual payment.

2nd.

A lends B. \$1000, payable in ten annual instalments of \$160 each. What rate per cent. does B. pay for his money?

Solution.

Let a be the principal, b the annual payment, and r the rate per unit.

$a(1+r) - b$ = the principal after the 1st payment.

$a(1+r) - b(1+r) - b$ = the principal after the second payment.

$a(1+r) - b(1+r) - b(1+r) - b$ = principal after the third payment.

Generally

$$a(1+r)^n - b(1+r)^{n-1} - b(1+r)^{n-2} - b(1+r)^{n-3} - \dots - b = 0$$

$$= a(1+r)^n - b \left\{ (1+r) + (1+r)^2 + (1+r)^3 + \dots + 1 \right\} = 0.$$

Showing that the amount of the principal for the given time, at compound interest, is equal to the sum of the amounts of each payment for periods of one year, two years, three years, . . . less than the given time, plus the payment, proving that these problems belong to compound and not to simple interest. In fact, Professor McLellan positively states that the first belongs to compound interest. The second must also belong to compound interest, as it is only the converse of the first. In the 1st problem b is required and $(1+r)$ given, in the second b is given and $(1+r)$ required.

$$b \left\{ (1+r)^{n-1} + (1+r)^{n-2} + (1+r)^{n-3} + \dots + 1 \right\} = \frac{b(1+r)^n - b}{r}$$

$$\text{Hence } a(1+r)^n = \frac{b(1+r)^n - 1}{r}$$

$$\therefore b = \frac{ar(1+r)^n - 1}{(1+r)^n - 1} = \frac{5000 \times .06 \times (1+.06)^4}{(1+.06)^4 - 1} = \$1442.944.$$

In the second problem we have, according to the same principle, $1000(1+r)^{10} - 160 \left\{ (1+r)^9 + (1+r)^8 + \dots + 1 \right\} = 0$,

$$\text{or } (1+r)^{10} - \frac{160}{1000} \left\{ (1+r)^9 + (1+r)^8 + (1+r)^7 + (1+r)^6 + (1+r)^5 + (1+r)^4 + (1+r)^3 + (1+r)^2 + (1+r) + 1 \right\} = 0.$$

A beautiful geometrical progression of eleven terms, commencing at unity, in which the last term is the four twenty-fifths of the sum of the other ten. By summing these ten, we have $(1+r) - \frac{1}{1+r} \left\{ \frac{(1+r)^{10} - 1}{r} \right\} = 0$, from which we find $r = \frac{\frac{1}{1+r} \left\{ \frac{(1+r)^{10} - 1}{r} \right\} - 1}{(1+r)^{10} - 1}$ and by add-

ing unity to both sides, we have $(1+r) = 1 + \frac{1}{1+r} \times \frac{(1+r)^{10} - 1}{(1+r)^{10} - 1}$ and by

clearing and transposition $(1+r)^{11} - 1.16(1+r)^{10} = .16$, and by employing Newton's rule of trial and error we obtain $1+r = 1.09606998$, the same answer which the Mathematical Editor of the *Journal* and Mr. Jesse Ryerson discovered. By adopting the same process we find that the Building Society charges the usurious sum of 10½ per cent. for their money. The general formula for such problems is, $(1+r)^n + \frac{1}{a}b - \frac{1}{a} = 0$, assuming, as we have already done,

a , the capital, b the yearly payment, r the rate per unit, and n , the No. of years.

I am, Sir, your obt. servt.

D. C. SULLIVAN.

BRIEF PAPERS.—No. ONE.—ON INTEREST.

Text.—"INTEREST is the sum of money paid for use or loan of some other sum of money."

"INTEREST is divided into SIMPLE AND COMPOUND. When the interest is reckoned only on the principal or sum lent it is SIMPLE INTEREST."—*Canadian Elementary Arithmetic*, p. 127.

Commentary.—The above statement is fallacious. There is but one kind of interest; there are not different species of allowances made for the use of money or that which can be valued in money. There are divers rules for computing the numerical value of the allowance. Of these, some give an imperfect result, but being of a simpler form, admit of convenient handling and speedy reference. Hence, they are frequently preferred in business ("time is money") to more complex though strictly accurate formulae. This is more especially the case with such forms as approach so near to the truth as to exclude material error in their results.

The definition of simple interest above quoted further contains an implication that interest is something computed on money that is NOT lent. That cannot be, for interest is a function of the principal, rate, and time, that is $I = f(p, r, t)$, and the definition of principal declares it to be money LENT. You may say (what many do) that compound interest is "interest upon interest," and thus try to mend one mistake by making another. It is impossible to logically construct any algorithm whereby interest shall be shown to be the function of interest or of any money not borrowed.

We are then forced to the conclusion that the terms *simple* and *compound*, as applied to interest, are MISNOMERS, and should consequently be expunged. Theoretical error leads to practical error, and the fallacies here refuted, though small, have in times past led to serious results, sometimes of most lamentable character.

The rules for computing interest may be divided into simple and complex. The term complex has a far different signification from compound. The complex rule is perfectly accurate, the simple rules are (all of them) approximations only, and, therefore, more or less inaccurate.

H. T. SCUDAMORE.

Sutherland's Corners, 17th Oct., 1872.

GENERAL RULE FOR EVOLUTION.

Divide the given number into two parts, such that the first part shall have an exact root. Unity would always suffice for the first part, since all its powers and roots are exact. But, for the sake of brevity, it is desirable that the first part be greater than the second, and the greater the excess the shorter will be the following process.

Then construct four columns of numbers in the following manner.

In the first column place the reciprocals of the series of natural numbers, commencing with unity, namely, $1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \&c. \&c.$

In the 2nd column place, as a first term, the index of the required root, (considered as a fractional power), and form the succeeding terms by successive additions of unity.

The terms in the 3rd column are all equal to one another, and are found by dividing the second part by the given number.

The first term of the 4th column is the root of the first part, and each succeeding term in this column is the continued product of the four terms of the next preceding horizontal line.

The sum of the fourth column is the required root.

EXAMPLES.

$\sqrt[5]{5} = \{(-13) + 48024\}^{\frac{1}{5}}$				$\sqrt[3]{9} = 729 + 171\}^{\frac{1}{3}}$			
Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 1.	Col. 2.	Col. 3.	Col. 4.
1	$\frac{1}{5}$	086048	1 300 000 00	1	$\frac{1}{3}$	19	900 000 00
$\frac{1}{2}$	$1\frac{1}{5}$	086048	22 372 48	$\frac{1}{2}$	$1\frac{1}{3}$	19	57 000 00
$\frac{1}{3}$	$2\frac{1}{5}$	086048	1 155 06	$\frac{1}{3}$	$2\frac{1}{3}$	19	7 220 00
$\frac{1}{4}$	$3\frac{1}{5}$	086048	72 89	$\frac{1}{4}$	$3\frac{1}{3}$	19	1 059 95
$\frac{1}{5}$	$4\frac{1}{5}$	086048	5 81	$\frac{1}{5}$	$4\frac{1}{3}$	19	167 83
$\frac{1}{6}$	$5\frac{1}{5}$	086048	42	$\frac{1}{6}$	$5\frac{1}{3}$	19	27 64
Total Col. 4. the root 1.323 606 66				$\frac{1}{7}$	$6\frac{1}{3}$	19	4 67
The product of the 1st line $1 \times \frac{1}{5}$				$\frac{1}{8}$	$7\frac{1}{3}$	19	40
$\times 086048 \times 1.3$ forming 2nd term				Total Col. 4. the root .96563049			
Col. 4, viz., .022 372 48 and $\frac{1}{5} \times 1\frac{1}{5}$							
$\times 086048 \times .022 372 48 = .001 155-$							
06, et cetera.							

Sutherland's Corners, 17th Oct., 1872.

H. T. S.

Notwithstanding Mr. Scudamore's criticisms on the definitions of interest, as given in the text-books, we fail to discern any suggestion sufficient to either improve our knowledge of interest, or enable us to teach it with better success. Let any practical teacher try to make Mr. Scudamore's definition of interest more intelligible or useful than those given in the text-books. He says: "Interest is a function of the principal, rate, and time." This, at least, has no claim to simplicity, the great charm in the art of teaching. Mr. S. declares the terms *simple* and *compound* to be misnomers, which should be expunged; but he has not given us words more suitable as substitutes. He says, "Theoretical error leads to practical error." This is exemplified in the late solutions headed "Interesting Interest," by Mr. Cameron, whose fallacy has defied the logic and mathematical theory of Mr. Scudamore.

CHANGING TEACHERS.

To The Editor of the Journal of Education:

SIR,—This has remarkable in these parts for changing teachers. Situated in West Garafraxa, I cannot name one school having last year's teacher; nor are the villages an exception—Fergus, Mount Forest, Arthur, Alma and Douglas have all changed. I have had a letter lately from my Cousin, teacher, in the town of Killyleagh, County Down, Ireland. This man has managed to keep this school, or rather it has kept him, since, and before 1843, when I left him there. Since that year, I have been teaching in Canada, and I think the schools would outnumber, not only the years, but their halves. Were this a particular instance, the difference might be laid to the difference in the men. I wanted to write on the same theme as the Reverend William Cochrane, of Brantford, but, I refer your readers to the Journal for December, where they will find his article better than anything I could produce, and in my opinion, better than any other on the same subject.

The people have three reasons for changing teachers:—the first is, "that payment confers the right to employ, and the right to dismiss." The popularity of this statement is owing to the palpable fairness on its surface; but it is fallacious, for, between the arbitrary right to dispose of money, and the judgment that should be employed in the disposal, there is no connexion at all.

2nd. "That the loss of this right would make teachers mere careless sinecures. Now suppose this right to employ and dismiss to be taken from the hands of trustees and placed in the hands of three well educated School Commissioners, one appointed by the Government, one by the people, and one by the teachers, would not the few competent trustees be relieved of an office both profitless and praiseless?

If one function of these Commissioners were to nullify or certify the objections in a written petition signed by a majority of the rate-payers in a section wanting to remove its teacher, would this slow way of disposing of him make him more careless or more diligent? If he found himself secure against public caprice, and knew that he could not be removed but by a "fair trial" by competent judges, and if he were sure that nothing but established inefficiency or immorality could bias them against him, still he would endeavour to be popular; for, living a lifetime among a people wanting him away, is itself a consideration; and, let us remember, that one such removal do. Our present trustees form a petty "Star-Chamber" tribunal, exercising the same fatal certainty over position, that their prototype did over life, and against whose summary decisions remonstrance is futile. Many a clever man quits teaching altogether rather than succumb to the fiat of a crooked, boorish trustee. The 3rd, last, and worst argument of all is, "That popularity is the best test of worthiness or worthlessness."

Public opinion is a public idol and has more devotees than any Eastern pantheon ever had. By public opinion, I understand public average intelligence—it must be the average, for public or general opinion is essentially not particular opinion. But what would be the probable opinion of a thousand men whom accident might convene? Would not the single opinion of one doctor, or one lawyer or one statesman be better in matters relating to his business, than the opinion of the thousand men outside the business? There is a positive absurdity in voting or passing judgment publicly on what one does not understand. The universality of the custom is apology, yet the apology is still worse than the custom—it is a futile attempt to establish this erroneous popular dogma.—What public opinion lacks in quality it can make up in quantity!

JOHN IRELAND,
Teacher.

29th. Rain, 2nd, 3rd, 13th, 15th, 16th. Difference of monthly mean temperature from average of 12 years—4° 41.

HAMILTON.—Snow birds, 7th. Windstorms, 4th, 8th—11th, 15th, 20th. Fog, 13th, 21st. Snow, 3rd—6th, 8th—10th, 12th, 14th, 15th, 18th, 20th, 21st, 23rd—25th, 31st. Rain, 2nd, 3rd, 13th, 16th.

SMOKE.—Wind storm, 23rd. Snow, 3rd—6th, 9th, 18th, 20th, 24th. Rain, 2nd, 13th, 14th, 16th, 17th.

WINDSOR.—Hail, 8th, 16th. Lunar halo, 6th, 7th, 8th, 9th. Wind storms, 8th, 9th, 23rd. Snow, 3rd, 5th, 11th, 14th, 16th, 20th, 21st, 23rd, 24th, 28th. Rain, 2nd, 13th, 15th, 16th.

V. Biographical Sketches.

1. JOHN YOUNG, ESQ.

For over forty years Mr. Young was a resident of this city. For many years he was Director of the Great Western Railway, and one of the original promoters of the Canada Life Assurance Company in 1847, and had been President of it for several years at the time of his death. He took a prominent part in the formation of the Hamilton Gas Company, and was elected its President at every annual meeting held since. In the resuscitation of the Hamilton and Lake Erie Railway he took an active part, and was one of the Directors of that Company. Mr. Young was born in Galston, Ayrshire, in the year 1808, and was the youngest son of Mr. James Young, of that place. He served an apprenticeship to the hardware business in Kilmarnock, and came to Montreal in 1828, where he was, for some time, in the employ of W. Richie & Co., general merchants of that city. In the spring of 1832 he came to Hamilton, and started business as a general merchant, meeting with that success which ever attended his business ventures. In 1840 he became a partner in the firm of Buchanan, Harris & Co., and subsequently became the head of the firm of Young, Law & Co. Seven years ago he became connected with the Dundas Cotton Mills, which, under his enterprising administration, have recently been greatly enlarged. During the rebellion Mr. Young did good services in command of a company of loyal volunteers. — *Hamilton Spectator*.

2. CAPTAIN C. RUBIDGE, R.N.

Capt. Rubidge was born in England on the 30th of April, 1787. In 1806, when only eleven years of age, he entered the Royal Navy as a volunteer of the third class, on board the *Arrow* sloop of war, commanded by his uncle, the well-known Captain N. Portlock. In 1819, Lieut. Rubidge, with his wife and three children, emigrated to Canada. They landed at Quebec in June, and reached Cobourg in the following month, the journey having occupied a space of over three weeks. In 1820, they removed from Cobourg to the Township of Otonabee in this County—Lieut. Rubidge being the second actual settler, Mr. G. Kent having been the first, in that township. He was at once placed in the Commission of the Peace, and, at the time of his decease, was the oldest magistrate in the whole of what formerly comprised the Newcastle District, including the Counties of Northumberland, Durham, Peterborough and Victoria. In 1825-'6 he assisted the Hon. P. Robinson in settling immigrants from Ireland. He cut out and cleared a road from Rice Lake to Peterborough, through the woods, to facilitate the transport of people and stores from Cobourg—a work with which Sir P. Maitland was so pleased that His Excellency gave him a town—and a part lot. In 1831 he was appointed, by Lord Seaton, Immigration Agent at Peterborough, and during that year he settled 4,000 immigrants from England, Scotland and Ireland. In 1841 he was appointed Registrar of the County of Peterborough, an office the duties of which, it will be universally conceded, he fulfilled with credit to himself and advantage to the public for more than 30 years. In 1841, he was promoted to the rank of Commander in the Royal Navy. He was also, up to the time of his death, the recipient of a good-service pension from Greenwich Hospital. — *Peterborough Review*.

3. ARCHDEACON BROUGH.

The Ven. C. C. Brough, Rector of St. John's, London Township, and Archdeacon of Huron, was born in the County of Carlow, Ireland, in the year 1794. In 1832 he emigrated to Canada, and settled in Orillia, where, for six years, he followed agricultural pursuits, enduring the privations and hardships inseparable from the life of early settlers. In his new home at Orillia he had Church service regularly in his own house, where his neighbours came on Sundays to join in the worship of their own beloved Church. He was then induced by the Bishop of Toronto to visit the Manitoulin Islands, where for three years he laboured as missionary. There in his backwoods ministry he made the acquaintance of the Rev. Benjamin Cronyn of this city. Then began that warm friendship that

even when one has departed to his everlasting home, still knows no decay. He was appointed by the late Bishop Strachan, of Toronto, to the mission parish of London Township, for some time held by the Rev. Benj. Cronyn, afterwards the first Bishop of Huron. — *Church Herald*.

4. MRS. RUTTAN.

Mrs. Ruttan was the eldest daughter of the late Elias Jones, who for many years held the Office of Clerk of the Crown, Clerk of the County Court and Issuer of Licenses for the old Newcastle District, which comprised the counties of Northumberland, Durham, Victoria and Peterboro'. At the age of 18 she married the late Hon. H. Ruttan, who for thirty years was Sheriff of the above District. For the long period of forty years Mrs. Ruttan was the Superintendent of the Sunday School which she founded at the west end, and the temperance pledge which she introduced as part of her system, has borne excellent fruits in rendering her pupils sober, industrious, and worthy members of society. — *Church Herald*.

5. MR. SAMUEL FIELDS.

Deceased was one of the oldest of the old families that made the County of Kent their home more than half a century ago, having been born—near where he died—in July, 1819, which would make him 53 years of age last July. He was universally respected by all who knew him, his virtues being many, his faults very few indeed. He was a public spirited man, and took part in all local matters with a degree of earnestness truly commendable; and in all benevolent and charitable objects he was amongst the foremost in his neighbourhood. As a township officer he was prompt and faithful in all the trusts reposed in him. Strictly consistent in his moral life, he was equally consistent in his political views, and ever proved himself loyal and true to his country and to his Queen. In 1837, when the rebellion broke out in Upper Canada, and when Loyalists were called upon to put that rebellion down, Samuel Fields was one of the first in the then Western District to shoulder his gun, and, in company with others—Kent volunteers—in the dead of winter and proceeded, but scantily provided for a fifty mile march, to the Town of Sandwich. — *Chatham Planet*.

6. MR. BRIGHT.

The veterans of 1812 are gradually passing away. Yesterday we announced the death of Mr. Bright, at the ripe old age of ninety-nine years and three months. The deceased gentleman came to Little York in 1798, with his father, and took part in the defence of the country under General Brock in 1812. He accompanied that general when Detroit surrendered to a handful of British soldiers and Canadian militia, and he was also beside Brock when he fell on Queenston Heights.

7. THE RIGHT REV. CHARLES PETTIT McILVAINE, D.D.

The deceased was born in Burlington, N. J., on the 18th of January, 1798, and had, consequently, passed the seventy fifth year of his age. He received an excellent preliminary education, and graduated at Princeton College with honour in the year 1816. He studied in the divinity class, and was admitted to deacon's orders on the 4th of July, in the year 1820. He was appointed in 1825 Professor of History and Ethics at West Point Academy. This position he resigned in the year 1825, on being called to the pastorate of St. Ann's Church, Brooklyn. In the year 1832 he was solemnly consecrated Bishop of Ohio. He entered on his pastoral duties with great zeal, and his constant, continuous efforts in the fold were blessed with abundant fruits. As Bishop of Ohio he exercised a large amount of influence over the American branch of the Anglican Church. He laboured personally and with unceasing assiduity among the flock which was first given to his care in Ohio from the moment of accepting the charge until his recent departure for sojourn in Europe for the benefit of his health. In the year 1853, Bishop McIlvaine received the degree of Doctor of Canon Law from the University of Oxford, and in 1858, that of LL.D., from the University of Cambridge. His work, "Oxford Divinity compared with that of the Romish and Anglican Churches," is well known. His lectures on "The Evidences of Christianity," have passed through thirty editions.

VI. Papers on Science.

1. THE INTELLECTUAL ENJOYMENTS OF SCIENCE.

Those who, for several years past, have been advocating the more generous introduction of scientific training into our schools and colleges, at the expense, if necessary, of giving less attention to phi-

logical studies, have, as a main argument, insisted on the greater utility of the knowledge of scientific truths as compared with the knowledge of the ancient Greek and Roman authors, so liberally imparted to our college-going youth. They have pointed out the glorious results with which science has enriched human society in the nineteenth century, and the comparative sterility of the so-called classical studies; they have pointed out the success in practical life of those men who have received a scientific education, while those whose whole training was merely philological have, in many cases, been starving for want of capacity to earn an honest living by useful practical labour, either mental or mechanical. In short, they have confined themselves to the task of praising science from a mere utilitarian point of view, forgetting that it may have higher claims, not only equal to those on which the friends of the old and time honoured custom of studying the classics base their defence, but even surpassing which may be asserted in favour of the effect of studies of the dead languages and literature on the development of the human mind.

The higher classes of society, especially in England, consider labour, if not directly degrading, at least below their special domain. They are apt to regard that kind of knowledge which is merely useful and such as men in practical business are in need of as without interest; and in place of attempting to acquire, for instance, so much knowledge of light and electricity as to be able to understand some optical apparatus or the electric telegraph, they prefer to concentrate their attention upon the writings of Virgil or the poems of Homer. A knowledge of Latin and Greek is supposed to be about the highest enjoyment reserved for a man of high culture, for the reason that these studies are pursued, not for a secondary, base, utilitarian purpose, but out of pure love for what is beautiful and true.

Those lovers of science who feel and know that in the study of God's handiwork, Nature, there is much more enjoyment, beauty and truth than in the study of literature, which is a mere human production, have therefore recently been raising their voices so as to persuade the most cultivated classes, if possible, that the pursuit of scientific studies is at least as much worth their notice as the pursuit of philology; that they should not abhor a chemical laboratory, or philosophical cabinet, as dull and dry; that there are fascinations hidden in these sacred precincts of science, which have only to be tested, with the purpose of impartial investigation, in order to be appreciated. This order of defenders of science have found a powerful advocate in Professor Tyndall, who, in his recent lectures, so often insisted that the classes of people for whom he spoke "should take science to their bosoms, not as the servant of Mammon, but as the supporter and enlightener of the mind of man." And the effect of his often repeated appeals has been something marvelous; people of high standing in society, and of corresponding cultivation of mind, who have been accustomed to occupy themselves in their spare hours with reading poetry and works of fiction or, at the very best, the so called classics, have furnished their libraries with works on science, and are studying optics, the polarization of light, etc.; and some have even gone so far as to buy, in place of useless ornaments, prisms, microscopes, and polariscopes, and are delighting themselves and their friends with the revelations made by those instruments, which seem to give us additional organs of sense.—*Scientific American*.

2. WATER AS FUEL.

"On Monday and Tuesday afternoon," says the *San Francisco Alta*, "a large number of citizens, by invitation, visited the brass foundry on Fremont street, for the purpose of witnessing some experiments with a new fuel recently invented. They were shown into that portion of the establishment occupied by the furnaces, and in one corner found a brick furnace, some eight feet long and six feet high. On the top of this was an iron tank holding about ten gallons, which was filled with crude petroleum. From this tank a pipe about an inch and a half in diameter led into the side of the furnace. A small jet of oil, not larger than a small goose-quill, was permitted to flow out of this tube; a light is placed beneath this jet, and it immediately ignites. Another pipe, about an inch in diameter, leads from a steam boiler stationed some fifteen feet away. This pipe leads a small jet of steam upon the burning oil, and the moment the steam strikes the oil the oxygen in the water is set free and ignites with a tremendous roar, generating in a very few moments a most intense white heat."—*Scientific American*.

3. DIFFERENT KINDS OF LIGHTNING.

Lightning is usually classified into *sheet*, *forked* and *ball* lightning. *Sheet* lightning is merely the reflection of forked lightning, or the electric discharge which has occurred somewhere out of the field of view. *Forked*, called also *zig-zag* or *chain lightning*, is the light pro-

duced by the disruptive discharge between cloud and cloud, or between cloud and earth. *Ball* lightning is of a very different character. Many of the so-called "balls" are undoubtedly optical illusions, and Faraday himself stated that they were incompatible with what we know of electric discharge. "There may be balls of fire," said he, "but they are not electrical." Yet the evidence of balls of blue fire, rolling along the surface of the sea and suddenly terminating in terrible electric discharges over ships, masses of fire rolling along the ground toward buildings, ending in fatal discharge, and many other cases, leaving it unquestionable that some such phenomenon as globular or ball lightning exists. Some have explained them to be balls of incandescent gas, rendered so by the discharge. According to others, ball lightning is a luminous spot on the earth, terminating a current or brush discharge from a negatively charged cloud. This spot moves with the cloud. Illuminated lines of force are projected from some point in the cloud upon the earth. The effect has been very successfully repeated experimentally, and this fact is suggested as an explanation of the photographic images imprinted on the skin of persons struck by lightning.—*To-Day*.

VII. Miscellaneous.

1. THE PUBLIC SCHOOL TEACHER.

ON the outskirts of the forest,
Twixt the shadow and the sunshine,
Stands the ancient time-worn school house,
Where the children flock together,
Of all ages and all sizes.
In all seasons, through all weather,
Come they here in quest of wisdom;
Come they here day after day,
At the doorway of the school house
Stands the ancient time-worn teacher;
Stands she there to watch the gambols
Of the young rogues sporting near her,
Of the maidens gaily playing
In the sunshine and the shadow,
Little thinking of the future;
Thinking naught but of the present;
Dreaming not that care and sorrow
E'er will dim those eyes so sparkling,
Flashing now in their bright beauty.
Still the ancient teacher stands there,
Watching sunshine and the shadow,
Watching birds so freely winging
Their swift flight o'er wood and valley
In the glad and joyous sunshine;
Over brooklets, over streamlets,
Singing their sweet songs of praises,
Echoed back by hills and forests
In that peaceful "land of plenty,"
Stands she still there in the sunlight,
Stands she there so sadly thinking,
On the past and of the future,
Of the years that have flown o'er her,
Of the years that still must come;
Of the lonely days and weary
She has spent in that old school room—
Days that ne'er will come again,
Whilst the fickle, sportive sunshine,
Gaily playing with her wrinkles,
Idly dancing, flashing, glimmering,
As she stands there pale and pensive,
Thinking of the days when others
Watched her gambols midst the children,
Whilst her eyes had flashed and glistened—
Eyes grown dull by care and weeping—
Flashed in sunlight and in starlight;
While her happy heart was beating
Merry music in her bosom,
And she thinks of days when lovers—
Brave and noble she had thought them—
Lovers came to woo and win her
From her cares in that old school room,
From the children flocking round her,
From the books she pondered over,
From the studies loved so dearly,
Turned she sternly, firmly from them,
Heeded not their sighs and groanings,
Thought not of their pain and anguish
As they moaned in grief most bitter;
Thought she only of her mission
To those dear and cherished children.
Soon they ceased from their despairing,
Walking lonely in the starlight,
Weeping wildly in the moonshine;

Soon they dried their eyes—those lovers—
 Ere their grief did blind and dim them ;
 Wooed they Eve's fair willing daughters,
 Won them ; and they soon forgot her,
 Sitting in her lonely school-room.
 There the years had come and found her.
 Stolen all her glad young beauty ;
 Stolen all her mirth and gladness,
 Stands she there still idly musing
 On the past and of the future,
 While gay and thoughtless children,
 Sporting round with merry laughter,
 Think not of the ancient maiden
 Standing there so idly musing
 On the past and of the future.
 Starts she from her listless dreaming ;
 Rings a bell for speedy silence ;
 Stops the mirth of those bright creatures
 As they enter that old school-room,
 Con their tasks with eager faces
 While the low voice of the teacher
 Breaks the stillness of the school-room.
 Hears she now long, weary lessons,
 While her brain is wildly throbbing,
 While her heart is quickly beating,
 While her heart is madly longing
 For the sunshine and the shadow,
 For the mountain and the valley,
 For a home of love and quiet.
 O, the hours of weary longing !
 O, the years so long and dreary !
 Sitting in that dreary school-room.
 Here, thro' sunshine and thro' tempest,
 In the pleasant days of summer,
 When the birds sing in the forest,
 And the brooklets run and glisten,
 Comes she to fulfil her mission,
 Through the long and dreary winter,
 When the cold and cruel winter
 Stops the merry laughing streamlets,
 And the snow so pure is drifting
 Through the village and the forest,
 Covering all the roads and by-paths,
 Comes she to fulfil her mission.
 Thus each New Year came and found her,
 Robbed her of her youth and beauty,
 Robbed her of her mirth and gladness,
 Left her toiling lonely onward.
 Point some now with scornful finger
 At the ancient care-worn maiden,
 Touched by time's unsparing finger,
 Walking lonely thro' the life-path.
 Think they not of joys relinquished—
 Think they not of her young beauty
 Offered freely—given freely—
 When she felt this was her mission ?
 Think they not of good seeds planted
 In the hearts of many children,
 Taking root and bearing blossoms—
 Blossoms that will bloom in beauty
 In the "Islands of the Blessed,"
 In the "Land of the hereafter ?"
 Soon she'll come no more to labour,
 Come no more to muse and suffer,
 But she'll roam in paths of beauty
 Where the flowers for ever blooming
 Waft their sweetness and their fragrance,
 And the rippling flowing rivers
 Murmur their delightful music,
 While their shores are lined with blessed ones,
 Robed in white and shining garments,
 In the Kingdom of the Faithful,
 In that Land of Happiness.

Read before the Delaware County Teachers' Institute, by Mrs. Bass.

2. GOD SAVE THE QUEEN.

We translate the following from the *Album de la Minerve*:

ENGLAND OWES "GOD SAVE THE QUEEN" TO FRANCE.

One day Madame de Maintenon had expressed the desire of having a canticle—words and music—for the young ladies of the Royal Convent of St. Cyr, to be sung whenever Louis XIV. entered the chapel. Her wish was soon fulfilled, for at the next visit of the King to St. Cyr, the girls sang the following canticle :

Grand Dieu, sauvez le roi !
 Grand Dieu, vengez le roi !
 Vive le roi !

Que toujours sois glorieux
 Louis victorieux,
 Vois ses ennemis
 Toujours soumis !

Some after time, the illustrious Handel, being in France, heard the canticle in Versailles, accompanied by a brilliant orchestra. Struck by its power and majestic effect, he obtained a copy from the Superior of St. Cyr, and on his return to England presented it to George the First. The author of this now immortal production was Luillie, the chapel master of the French King.

3. NAMES OF THE UNITED STATES.

A correspondent having inquired why the States are called by their present names, and what are their derivation and meaning, an exchange answers as follows :

MAINE.—So called from the province of Maine, in France, in compliment to Queen Henrietta, of England, who, it has been said, owned that province. This is the commonly received opinion.

NEW HAMPSHIRE.—Named by John Mason, in 1639 (who with another, obtained the grant from the crown), from Hampshire County, in England. The former name of the domain was Laconia.

VERMONT.—From the French "vert" "mont," or green mountain, indicative of the mountainous nature of the State. The name was first officially recognized January 16, 1777.

MASSACHUSETTS.—Indian name signifying "the country about the great hills."

RHODE ISLAND.—This name was adopted in 1644 from the Island of Rhodes, in the Mediterranean, because of its resemblance to that island.

CONNECTICUT.—This is the English orthography of the Indian word Quon-eh-ta-cut, signifies "the long river."

NEW YORK.—Named by the Duke of York under colour of the title given him by the English crown in 1664.

NEW JERSEY.—So called in honour of Sir George Carteret, who was Governor of the Island of Jersey, in the British Channel.

PENNSYLVANIA.—From William Penn, the founder of the colony, meaning "Penn's Woods."

DELAWARE.—In honour of Thomas West, Lord de-la-Ware, who visited the bay, and died there in 1610.

MARYLAND.—After Henrietta Maria, Queen of Charles I., of England.

VIRGINIA.—So called in honour of Queen Elizabeth, the "virgin queen," in whose reign Sir Walter Raleigh made the first attempt to colonize that region.

NORTH AND SOUTH CAROLINA, were originally in one tract, called "Carolina," after Charles IX., of France, in 1604. Subsequently, in 1665, the name was altered to Carolina.

GEORGIA.—So called in honour of George II., of England, who established a colony in that reign in 1732.

FLORIDA.—Ponce de Leon, who discovered this portion of North America in 1512, named it Floriday, in commemoration of the day he landed there, which was the Pasques de Flores of the Spaniards, or "Feast of Flowers," otherwise known as Easter Sunday.

ALABAMA. Formerly a portion of Mississippi Territory, admitted into the Union as a State in 1819. The name is of Indian origin, signifying "Here we rest."

MISSISSIPPI.—Formerly a portion of the province of Louisiana. So named in 1800, from the great river on the western line. The term is of Indian origin, meaning "long river."

LOUISIANA.—From Louis XIV., of France, who, for some time prior to 1763, owned the territory.

ARKANSAS.—From "Kansas," the Indian word for "smoky water," with the French prefix "arc," bow.

TENNESSEE.—Indian for "the river of the big bend," i. e., the Mississippi, which is its western boundary.

KENTUCKY.—Indian for "at the head of the river."

OHIO.—From the Indian, meaning "beautiful." Previously applied to the river which traverses a greater part of its borders.

MICHIGAN.—Previously applied to the lake, the Indian name for a fish-weir. So called from the fancied resemblance of the lake to a fish-trap.

INDIANA.—So called in 1802, from the American Indians.

ILLINOIS.—From the Indian "illini," men, and the French suffix "ois," together signifying "tribe of men."

WISCONSIN.—Indian term for a "wild-rushing channel."

MISSOURI.—Named in 1821 from the great branch of the Mississippi which flows through it. Indian term, meaning "muddy."

IOWA.—From the Indian, signifying the "drowsy ones."

MINNESOTA.—Indian for "cloudy water."

CALIFORNIA.—The name given by Cortes, the discoverer of that region. He probably obtained it from an old Spanish romance, in which an imaginary island of that name is described as abounding in gold.

OREGON.—According to some, from the Indian oregon, “river of the west.” Others consider it derived from the Spanish “oregano,” wild marjoram, which grows abundantly on the Pacific coast.

4. IRISH UNIVERSITY EDUCATION.

Among the measures dwelt upon in the Queen's speech was one for settling the question of University Education in Ireland. In the year 1591 letters patent were issued by Queen Elizabeth incorporating Trinity College, Dublin, as the “Mother of an University.” Many able and erudite men have completed their education there. The regular income, partly from students' fees, but chiefly from lands, is estimated at \$250,000 per annum. There are about 360 students in each year. In 1845 three Queen's colleges were esta-

blished by charter in Ireland, since united as the Queen's University, and open to all denominations. There is Maynooth College, exclusively for students who are destined to receive holy orders in the Catholic Church; this was established and endowed by Parliament. There, also, is the Catholic University, established in 1855. Trinity College, Dublin, always has been a strictly Protestant institution, receiving students, however, of all denominations, and allowing them to graduate; nay, allowing them to compete for the scholarships, fellowships, and some of the professorships—only with the reservation that, if successful, they can only hold these prizes by taking certain oaths as Protestants. As there are thirty-five fellowships, each yielding from \$2,000 to \$10,000 a year for life, and seventy scholars each having about \$1,000 per annum, it will be seen that these are rich prizes.

VIII. IMPROVED SCHOOL ARCHITECTURE.



No. 1.—DESIGN FOR RURAL SCHOOL HOUSE.

This engraving presents an illustration of a neat style of school house suitable for a rural school section. The interior is arranged as follows :

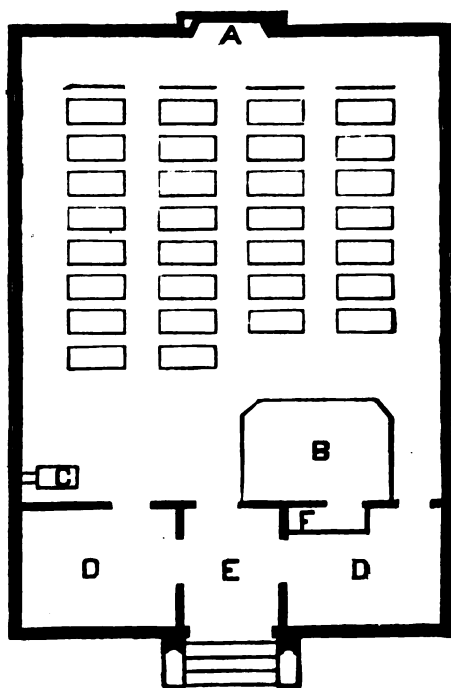
- A — Fire-place and Chimney.
- B — Teacher's Platform.
- C — Stove.
- D — Bonnet and Cap Rooms.
- E — Entrance Hall.

E is the front hall, with a door directly to the school-room for teachers and visitors, (never for pupils, as a rule), and to the right and left into rooms D; one for boys and one for girls, from which they pass, respectively, through another door to the school-room. As a rule, boys and girls should have separate entrances into the school-house; and in the new prize plant received from the Education Department this has been provided for.

B is the platform, and F, the teacher's closet.

C is the stove, the pipe going to the right, and turning at right angles through the centre of the room to the chimney, A, which has a small fire-place, with hearth, with register for the outlet of cold and impure air.

The side windows nearest the front



INTERIOR OF THE RURAL SCHOOL HOUSE.

are inserted for external appearance; but it might be well to permanently close them on the interior. The remaining four side windows, and two in the rear (not shown in the diagram), are amply sufficient; and all should be furnished with substantial inside blinds. Outside blinds go soonest to decay, and they are so inconvenient, that they will often fail to be opened or shut when they should be.

We would again repeat here what we have before said on the subject of seating the pupils opposite the window. This should never be done, as such an arrangement cannot be otherwise than injurious to the eyes of the pupil, since the strong light is constantly shining in to them. Pupils should always be seated with their backs or sides to the windows. There should be no window in front of them; but, if any, they should be windows facing north, and not those facing south. If from the structure of the lot or the house this arrangement is impossible, the window should be muffed or otherwise permanently darkened or shaded.

IX. Educational Intelligence.

—**MANITOULIN SCHOOLS.**—The benefits of the excellent School System of Ontario are being felt on this distant but interesting island. Two schools are in successful operation, and more are projected. At the annual meeting of S. S. No. Two, Tekemagh, held according to law on Wednesday, 8th January, R. A. Lyon, Esq., one of the school trustees, gave an excellent account of the state of the school at St. Michael's Bay, and urged an increase of salary, as a substantial testimony of their appreciation of the earnest and successful endeavours of the teacher, Mr. William G. Stewart. This appeal was promptly responded to, and good subscriptions, which will advance the salary at least fifty dollars per annum, were at once made. The more necessary maps, "The World," and the "Map of the Dominion," have been recently provided for the school. The more advanced pupils can already parse, compound and complex sentences at sight, and are daily acquiring more insight into etymology. Mr. John Lyon, of Equeusing, who is with us showed his intelligent appreciation of the value of the exertions made in the school, by subscribing \$10 towards its support. The system pursued by Mr. S. is that taught in Wood's Sessional school, of Edinburgh, where he (Mr. Stewart) was formerly a pupil teacher.—Com.

X. Departmental Notices.

HIGH SCHOOL INSPECTORS.

In consequence of the death of the Rev. J. G. D. Mackenzie, M. A., the Council of Public Instruction, at a meeting held on the 20th instant, appointed Mr. J. M. Buchan, M.A., Head Master of the Hamilton Collegiate Institute, to the office of Inspector of High Schools. Mr. Buchan's University course was a distinguished one. He obtained the first general proficiency scholarship at his matriculation in 1858; the scholarship in Metaphysics and Ethics in 1860; the second scholarship in Modern Languages in 1861, and at the final examination for B. A. in 1862, he obtained the silver medal in the department of Modern Languages. Since his graduation, Mr. Buchan has been at the head of the High School and Collegiate Institute at Hamilton, which he has brought to a very high state of efficiency. Mr. Buchan is also appointed a member of the Central Committee of Examiners, and will enter on his duties on 1st April.

A third inspector being now provided for in the estimates of this year, the Council, on the 25th instant appointed Mr. S. Arthur Marling, M. A., head master of the Whitby High and Public Schools, to that position. Mr. Marling was educated at Upper Canada College and at University College, Toronto, which he entered in 1850. During a distinguished University career, he uniformly obtained first-class honours in classical literature. In 1851, he obtained prizes for proficiency in Greek and Latin classics, and in composition in English verse. In 1852 he was placed first in the first class in *Litteris Humanioribus*, and gained the Chancellor's medal for the Evidences of Natural and Revealed Religion. In 1853 on taking his degrees he carried off the highest University distinction and the gold medal for classics. Mr. Marling has, during the subsequent twenty years been a successful head master of Grammar and High Schools in Bond Head, Newmarket, Chatham, and more recently at Whitby, where he has been very fortunate in his administration. He will enter on his duties in July, and will also act as a member of the Central Committee of Examiners.

ASSISTANTS IN HIGH SCHOOLS A NECESSITY.

Trustees of High Schools will bear in mind that they are required to employ an Assistant Master, in order to give effect to the new programme. The qualifications of these assistants are, that they shall either hold a First or Second Class Public School Teacher's certificate, or at least be certified as an undergraduate in the faculty of Arts, of good standing in some university in Her Majesty's dominions.

The Trustees of each High School, now established, are required, by the High School Act to employ *two* masters in their School, whatever may be the number of pupils in attendance. In justice to these new Schools, and in order to carry out the prescribed programme of studies in High Schools, this rule will, at the close of the current six months, be applied to all the High Schools in Ontario. When the application of the new principle of "payment by results" (authorized by the Act of 1871), will come into force, it will necessitate a more thorough and satisfactory system of instruction than at present exists in many of the High Schools.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme.....	Large Sheets.
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3. A Blank Time Table	
4. Duties of Pupils.....	
5. The Ten Commandments	Small Sheets.
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7. List of authorized Text Books.....	
8. Merit Cards and their uses.....	
9. Hints on constructing Time Tables.....	
10. Departmental Notices.....	

The ten sheets sent free of postage for 50 cents.

TEACHERS RETIRED FROM THE PROFESSION.

STATEMENT of Teachers who have given notice of retirement from the profession, as provided by the School Law of 1871, 34 Victoria, chapter 33, section 43.

(Continued from December number.)

	Name.	County.	Subscription returned, and Date.
85	Agnew, Robert	Grey	\$3, February, 1873.
86	Campbell, James	Peterboro'	3, January, "
87	Cross, W. H.	Halton	4, March, "
88	Dingman, W. E.	P. Edward	2, January, "
89	Eastman, S. H.	Wellington	3, January, "
90	Elliott, Geo. M.	Elgin	3, March, "
91	Fitzwilkins, O.	Lincoln	2, January, "
92	Fitzsimmons, W.	Wellington	4, March, "
93	Forsyth, David	Waterloo	2, January, "
94	Gunn, Robert	Essex	3, January, "
95	Godbold, S.	Waterloo	3, January, "
96	Graham, John	Wellington	2, January, "
97	Joseph, Anthony	Waterloo	3, February, "
98	Laing, S. L.	Simcoe	3, January, "
99	Leroy, S. E.	Prescott	3, February, "
100	Ludlow, James	Peel	3, February, "
101	McDougall, P.	Middlesex	3, March, "
102	McKenzie, D. C.	Wellington	3, March, "
103	McCann, J. A.	Leeds	3, Feb. & Mar. "
104	McGregor, A. F.	Victoria	3, February, "
105	McIntyre, Neil	Elgin	3, March, "
106	McIntyre, Alex.	Essex	4, March, "
107	McLaren, Alex.	York	4, January, "
108	McKee, George	Oxford	3, February, "
109	Mitchell, J. C.	Durham	3, March, "
110	Muir, J. M.	Waterloo	2, February, "
111	Morrison, M. M.	Bruce	2, January, "
112	Nesbitt, A. K.	Simcoe	3, January, "
113	O'Neill, James	Peterboro'	2, February, "
114	O'Neill, Michael	Victoria	2, February, "
115	Parliament, H. J.	Northum	3, February, "
116	Riddell, George	Northum	2, March, "
117	Robertson, J. P.	Carleton	3, January, "
118	Snowdon, T. J.	Simcoe	3, January, "
119	Smith, J. B.	Durham	3, January, "
120	Spencer, H. H.	Simcoe	3, January, "
121	Stewart, D. A.	Middlesex	3, January, "
122	Sinclair, A. J.	Elgin	3, January, "
123	Stanley, V. M.	Oxford	3, January, "
124	Silcox, J. B.	Lambton	3, February, "
125	Wright, Arthur	Grey	3, March, "
126	Williams, James R.	Elgin	2, March, "

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THE EDUCATIONAL ESTIMATES FOR 1873.

The Educational Estimates which were recently passed by the House of Assembly contain several items, in regard to which we desire to offer some explanation.

The principal item is the grant of \$220,000 for the Public and Separate Schools. This is an advance on last year's grant of \$20,000. The sum proposed by the Chief Superintendent was \$210,000, with an earnest request to the Government to increase the amount to \$250,000. A medium sum was, however, agreed to by the Government, and the grant was fixed at \$220,000. And, as explained to the House by the Hon. the Provincial Treasurer, the "\$250,000 urged by the Chief Superintendent would be in some proportion to the increase of pupils, the increased wealth and revenue of the country, the demands of



THE CAPEN PRIMARY SCHOOL-HOUSE, BOSTON.

education, the sum appropriated for High School Education, the doings of the people, and what is done in the neighbouring States." "The sum," he further remarked, "apportioned to High Schools this year out of the Legislative grant amounts to from \$18 to \$20 per pupil; while the sum apportioned to Public Schools amounts to only thirty-eight cents per pupil. This disproportion is altogether too great, and is exciting attention in some quarters. Formerly the Legislative Grant for Public Schools amounted to upwards of fifty cents per pupil; the increase of the grant has not been at all in proportion to the increase of pupils in the schools. Besides, the aggregate amount raised in the Province for Public School purposes during the last year is \$2,124,471, the whole of which sum, except the Public School proportion of the Legislative Grant (of \$194,171), has been self-imposed and raised by the people in the several municipalities, being an increase of \$180,106 over the preceding year. The Legislature ought certainly to keep pace with, if not take the lead of, the people in their various localities in its liberality to promote public education. "He explained that no grant would be more popular and beneficial than an increase of \$50,000 to the Public School Grant. The population of the neighbouring State of Pennsylvania does not increase faster in proportion than that of Ontario. In 1869, the Legislature of Pennsylvania granted for common school purposes, \$500,000; in 1870, \$650,000; and in 1871, \$750,000 were recommended by the State Superintendent. We ought not to fall behind our near American neighbours in educational matters, especially when we have an overflowing revenue."

2. A new item of \$2,500 was put into the estimates for the organization and inspection of schools in the new districts of Algoma, Nipissing and Muskoka, (for which the School Act makes no provision) and also in remote parts of several interior counties in unorganized townships. In recommending this grant the Chief Superintendent said "It is most important to assist and encourage the new settlers to establish schools for their children; but they often do not know how to proceed, and I am dependent upon information communicated by private individuals in their several neighbourhoods. But the visits of a qualified Inspector would encourage and instruct the new settlers as to their duty and modes of proceeding, and at the same time furnish the Education Department with reliable information and suggestions as to the best means of assisting these new settlements in providing school education for their children. A copy of the liberal regulations under which aid is given to schools in new and poor townships, is herewith appended.* I propose \$6,000 with which to aid these schools—the same as last year."

3. The sum of \$2,000 was put in the estimates for a *third* Inspector of High Schools and Collegiate Institutes. In regard to this item the Chief Superintendent said:—"The duties of these officers are onerous, requiring their absence from home and travelling about eight months of the year, while their qualifications must be of the first order, both as Teachers and Scholars. But I propose to add to their duties, by requiring

them to inspect the Roman Catholic Separate Schools, and also to examine the principal Public Schools in Cities, Towns, and incorporated Villages, (which are feeders to the High Schools), at least to see how far the programme and regulations are carried out in these schools. The local Inspectors of these schools are appointed, paid, and their duties prescribed by the several Boards of Trustees. I have no means, except from these local officers, (who are only responsible to the Boards that appoint and pay them), to learn whether the school law and regulations are observed at all. The same remark applies to Separate Schools. When Professor Young was High School Inspector, I authorized and requested him to visit the principal Separate Schools, and report the results. He did so, and his reports were, upon the whole, very creditable to the schools. Sometimes complaints are made to me that the Separate Schools are not conducted according to law, and the register and reports of the attendance of the pupils are not correct; but I have no means of ascertaining anything on the subject, except from the Trustees of Separate Schools themselves, without appointing an Inspector, whom I have no means of remunerating for his trouble; and if he be a local man, or Inspector of the rival Public Schools, objections are made, and with some show of reason, against his appointment. I therefore propose to devolve this duty on Inspectors of High Schools, to remove all reasonable ground of local complaint on any side, and in order to secure adequate means of reliable information in regard not only to Public Schools in Cities and Towns, but also respecting the Separate Schools; as the 26th section of the Separate School Act provides, that "The Roman Catholic Separate Schools (with their registers) shall be subject to such inspection as may be directed from time to time by the Chief Superintendent of Education, and shall be subject to all such regulations as may be imposed from time to time by the Council of Public Instruction for Upper Canada."

4. The sum of \$82,000 was provided for High Schools and Collegiate Institutes, including \$2,500 for new High Schools. These can only be established by the sanction of the Lieutenant-Governor in Council, but in the establishment of new High Schools, the allowance to existing High Schools will not be diminished.

5. A new item of \$2,800 was also proposed for Teachers' Institutes, which are regarded, established and multiplied in the neighbouring States as most efficient means of prompting and promoting the improvement of Teachers, and as feeders to the Normal Schools. In regard to this item the Chief Superintendent remarked:—"As early as 1850 provision was made in the School Act for this purpose, by granting "For the encouragement of a Teachers' Institute, a sum not exceeding \$100 in any County or Riding." (Consolidated Statutes, 22 Vic., chap. 64, sec. 120, clause 'F'.) By the 106th section, clause 14 of the same Statute, the Chief Superintendent is authorized "To appoint proper persons to conduct County Teachers' Institutes, and to furnish such rules and instructions as he may judge advisable in regard to the proceedings of such institutes, and the best means of promoting and elevating the profession of school teaching, and increasing its usefulness." But I have not acted upon the provisions of the law; I have thought it would be a waste of time and money to do so; for though impressed with the importance and utility of Teachers' Institutes, I felt that their usefulness depended upon the manner in which they were commenced and conducted, and there were no Teachers of sufficient eminence in the several counties, and so thoroughly grounded and experienced in school organization, teaching and discipline, to command the confidence of Teachers generally, and render the exercise of Teachers' Institutes successful. But now we have a considerable number of

*CONDITIONS OF AIDING PUBLIC SCHOOLS IN NEW AND POOR TOWNSHIPS.—Special aid will be granted (as hereinafter specified), by the Education Department to "Public Schools in new and poor Townships," upon the following conditions, viz.:—1. That a School Section or Division, with definite boundaries, has been set apart by the Township Council (where such exists), or where none exists, by a public school meeting, and approved, as reported to the Department by the County Inspector. 2. That, at a first school meeting three resident ratepayers (where the township is organized), or other suitable persons (in a township not organized) have been elected as trustees by the ratepayers (in organized townships), or by subscribers to, or other supporters of the school (in a township not organized); and that subsequently the election of one trustee takes place annually in the section or division. 3. That a building and other accommodation, considered by the County Inspector as suitable for the school, have been provided by the trustees. 4. That a teacher holding a legal, or other certificate, recognized as sufficient by the County Inspector, has been employed by the trustees for at least six months of the year. 5. That in sections or divisions, in new townships, without municipal organization, at least one-third of the annual salary of the teacher (for the first year), one-half of the salary (for the second and third years), and two-thirds of the salary (for the fifth year), together with the whole of the other expenses of the school have been provided from local sources. 6. That the school accounts of the section or division have been duly audited by one person appointed for that purpose by the trustees, and one by the ratepayers, and the audit reported to the Inspector and approved

previous to the payment by him of the next grant made by the Department. (See N.B. below.) 7. That all of the information asked for in the accompanying forms has been fully given, so far as it is in the power of the trustees to do so. 8. That a report in a prescribed form be sent in to the County Inspector, at the times specified, and certified by him as satisfactory.

I. Upon the foregoing conditions, the Department will, for the first year of the existence of a poor school recommended for such aid by the Inspector, in a new township without municipal organization, make an annual grant to it of a sum at least equal to the rate of two-thirds of the annual salary of the teacher, as certified by the trustees; for the second and third years, the grant will be at the rate of one-half of the annual salary of the teacher, and for the fourth and fifth years, at the rate of one third of the salary of the teacher as certified by the trustees.

II. The grants to schools in poor townships with municipal organization, will be made upon a different basis, at the discretion of the Department, and upon the special report and recommendation of the County Inspector.

NOTE.—Should facts or circumstances, reported to the Department, warrant it, the grant may be increased, reduced, or withheld altogether in any particular year, or at the end of any particular period specified, as may be deemed most expedient.

N.B.—No part of the grant made by the Department can, under the School Act, be applied to any other purpose, than that of the payment of the salary of the Teacher.

well-trained teachers in almost every county, and County Inspectors whose appointments have depended upon their being first-class Teachers. I think, therefore, that Teachers' Institutes can now be advantageously established."

6. The sum estimated for superannuated worn-out teachers is \$19,608. (The sum actually voted last session was \$12,000.) "This sum," the Chief Superintendent remarks, "is based on a calculation of the amount of the retiring allowance to 148 old teachers, with 3,268 years aggregate service, at \$6 per year. The maximum sum authorized by law. Heretofore the grant was not sufficient to pay a worn-out teacher little more than one dollar a year for each year he had taught; by getting the grant increased, as also some increase in subscription, I was enabled to pay them at the rate of two dollars for each year they had taught. I have been able to pay superannuated teachers this year at the rate of \$4 per annum for each year they had taught. I explained verbally to your predecessor in office, (the Hon. A. Mackenzie), that the principle I proposed for the action of Parliament, was to grant dollars for dollars; that is, that the Parliament should grant one dollar for every dollar that should be paid by teachers for their support when superannuated; but for the current year I proposed the sum of \$12,000, though the teachers' subscriptions will amount at least to \$10,000. Instead of raising the allowance of superannuated teachers at once to the full sum of \$6 per annum for each year they had taught, I proposed to increase it gradually, and let the balance of the Parliament grant be funded or invested, and the interest added to the annual allowances to superannuated teachers. Mr. Mackenzie approved of this plan; and were it now carried out, there would not be over \$10,000, to be invested for that purpose; for the subscriptions of teachers, under the law of 1870, have amounted this year up to November \$10,756 71. Out of the grant of \$12,000 voted by Parliament last session, within \$1,243 29 of the whole amount has been covered by the teachers' subscriptions (which have been paid into the Provincial treasury). This \$1,243 29 has been the only sum paid out of the public revenue this year, (instead of \$6,000 as in former years), while the allowance to superannuated teachers has been increased one hundred per cent. But I do not dwell upon the trifling sum of \$1,243 29, actually paid this year to the superannuated teachers' fund by the Legislature; nor do I propose the investment of any part of the grant, as I suggested to Mr. Mackenzie last winter. On further consideration and observation, I think another plan will be more beneficial to superannuated teachers, to the profession of teaching, and more economical for Parliament. I propose that the number of superannuated teachers, and their aggregate years of service, shall be the basis on which the Parliamentary grant each year shall be made, allowing at the rate of \$6 per year to each teacher for each year of past service. This arrangement will cheer the heart of every old worn-out teacher; it will increase his allowance fifty per cent. over that of the current year; it will enable him to know what to depend upon in future, and each teacher in the work will know what to depend upon by teaching until he become superannuated, and the Parliament will only to have to supply the sum necessary each year to meet the demand over and above the amount of the teachers' subscriptions.

As the aggregate sum proposed for 1873, is \$19,608; and the Teachers' subscriptions will be at least \$19,000; it follows that the Legislature will have actually to pay out of the public revenue less than \$10,000. I believe when this arrangement comes to be explained and understood, it will not only be acceptable to the Legislature, but the little opposition which has been attempted to be got up by such Teachers as only teach as a stepping-stone to some other pursuit or profession, will entirely disappear, and the permanence and efficiency of the Teachers' profession will be immensely promoted."

With a view to carry out this proposition, the Chief Superintendent submitted the following provision in the draft of the Bill which was approved and brought into the Legislature by the Hon. Attorney-General Mowat.

"Every teacher who, while engaged in his profession, contributes to the support of the Superannuated Teachers' Fund, as provided by law, shall, on retiring from the profession of teaching, as provided in the Consolidated School Act (22 Vic. ch. 64), and upon furnishing satisfactory proof to the Council of Public Instruction of good moral character, and of his age, and length of service as a public or high school teacher in Ontario, shall be entitled to an allowance or pension, at the rate of six dollars per annum for every year of such service: Every such teacher, on reaching the age of sixty years, shall be entitled to retire from the profession at his discretion: Every teacher under sixty years of age shall, in addition to proof of his age, furnish from time to time satisfactory testimony of being disabled from practising his profession: The retiring allowance shall cease at the close of the year of the death of the recipient, and may be discontinued at any time should the superannuated teacher fail to maintain a good moral character, to be vouched for (when required)

to the satisfaction of the Council of Public Instruction: And should any pensioner, with the consent of the Council, resume the profession of teaching, the payment of his allowance shall be suspended for the time so engaged, and, in such a case, a pension for the additional time of teacher shall be allowed him, on his compliance with the law and regulations, and his again being placed on the superannuation list by the Council."

For the *Journal of Education* the sum submitted was \$2,940, "including \$250 for engraving plans of new School-Houses in Ontario," and \$150 for Prizes for designs for Rural School-Houses and grounds."

The amount proposed for the Educational Depository was \$50,000, as against \$42,000 in 1872. This item elicited the following discussion in the House of Assembly:

"Mr. Gibson, of Huron, objected to the item. He did not think that the Government should keep a big book-store, while there were plenty of them on King Street. It was behind the age."

"Mr. Deroche thought that the keeping up of this book and map establishment, from which publications can be obtained at half-price, was an injustice to the general book and stationery trade, and should be discontinued by the Government. He contended, moreover, that some sections of the Province were benefited by it, while others did not receive those benefits."

"Mr. Ferguson said that this establishment was doing good, and should not be abolished."

Hon. Mr. Mowat was aware that many of the friends of the Government were opposed to this establishment, but he did not like to abolish it at present. He believed that many of the cogent reasons which were once to be brought in favour of it had ceased to exist. There were powerful considerations on both sides of the question, but 'on the whole' he thought that, if he occupied his present position next session, he would be prepared to decide whether he would submit a measure for its abolishment."

"Mr. Oliver had had the honour of presenting several petitions against the continuance of this establishment, and when a Reform Government came into power he fully expected that it would be abolished. He regretted to see that, on the contrary, the estimate for the purchase of these publications was greatly increased. But perhaps the Government might be excused by the fact that they hadn't been long in office."

"Mr. Farewell would regret to see this establishment abolished, because he regarded it as a valuable auxiliary to our invaluable school system. He regarded its existence as necessary to the perfecting of our Common School system—a system of which any Canadian may well be proud. One of the clearest evidences, he said, of a high state of civilization in this country is its admirable educational system, considered in all its parts, from the Common School up to our national University. Perhaps the machinery of this system is as perfect as any on the earth. The officers engaged in the several departments make it a specialty to attend, each to certain duties, and in this way become as nearly perfect as possible. One of the necessities of a perfect system of education is the means ever at hand to supply as cheaply as possible, such books, maps, and apparatus as experience has shown to be desirable, as aids to the teacher, and indispensable to the proper advancement of the student. The selection of the items which make up the Depository is made a specialty by those in charge of the business, and hon. members can readily see that instead of its being a huge monopoly, as some hon. members suppose, it simply supplies the wants of the schools, without, in any manner, interfering with the general trade of the Province. If any money be saved by the operations of the Depository it is saved for the country, and if anything be made it is made in the interests of the people. If we would keep our school machinery perfect, we must retain our Depository, and for so desirable, yes, so necessary an object, he (Mr. Farewell) would give his vote most heartily."

The following items were passed:—Salaries of clerks, &c., in Educational Depository, \$4,495 as against \$3,670 for 1872; contingencies for same, \$4,060 as against \$2,330 for 1872.

"Mr. Deroche thought that if the Premier was sincere in his promise of abolishing this establishment next session, the Government should not be asking for such largely increased votes in connection therewith. It seemed to be one of the proposals to send some gentleman connected with the Educational Department to England to transact some business in connection with this Depository. Now why should all this be done if the establishment was to be abolished as the Premier had promised?"

"Hon. Mr. Mowat said that until the establishment was abolished it should be carried on as usual. It was the usual business procedure to send agents to England to purchase, and while the Depository was continued it was but common prudence to operate it according to ordinary business principles."

We have in this journal so fully, from time to time discussed this matter, that it is scarcely necessary to enter into the subject at length, especially as means will be taken to obtain the fullest information on the subject. In the meantime we may state that the principal objections urged by Booksellers against the Depository, are:—

1st. That it is an unjust interference with "the trade."
2nd. That it creates a "monopoly" injurious to them.
3rd. That if the Legislature supplies its Schools with books and maps, it ought, on the same principle, to supply other articles.
4th. That, even if the arrangement was a wise one in the infancy of the school system, when Booksellers were few and facilities of supply did not exist, it is indefensible now, when these reasons for its establishment no longer exist.

5th. That if "the trade" can (as it does) supply text books, it can also equally well supply library and prize books.

6th. That the Depository is an expensive burthen to the Province. Although it is difficult to condense replies to general objections like the foregoing, yet we endeavour to do so, as follows:—

1st. That the alleged interference of the Depository with the book trade is the reverse of truth, as the "Trade Returns" will show. It has, on the contrary, largely developed this trade, by sending books into every corner of the land. The value of books (not maps and apparatus) imported into the Province of Ontario in 1860, was \$141,700, and now about \$410,000, while the average import of books by the Department has not been ten per cent of this latter sum.

2nd. That the Educational Depository exists solely for, and in the interests of the Schools alone, and that it has never supplied private parties with books, or interfered with private trade in any way; and that to abandon the principle of the Educational Depository would be either to confer a "monopoly" of high prices upon a few individual booksellers, or to throw wide open the door to the introduction of all kinds of literature, the bad and pernicious as well as the good, as can be demonstrated by incontrovertible testimony and examples.*

3rd. That the principle of the Depository is recognized and acted upon without question by the Imperial, Dominion and Provincial Governments, in their Stationery offices, Queen's Printers, Post Office, Army and Navy Supply, etc.

4th. That if the Government, under the authority of the Legislature, has a right to give money and provide trained teachers for the Schools, it has also a right to give books and maps to them, and that is not a shadow of difference in the principle of the one gift and the other.

5th. That the entire text-book trade is in the hands of the booksellers, as the books are all named and known, and no departure from the list can take place; but that with the large and constant influx of new books no such supervision could take place over the supply by booksellers of prizes and library books.

6th. That the depository has fully paid its own way, and has not cost the Province one cent for its management for twenty years.

The estimates have been made with a view to the strictest economy, based on past experience and present exigencies. The Depository has always been more than self-supporting, including the salaries of its officers. The receipts from the depository paid into the Provincial Treasury this year, will not be less than \$35,000, and will probably considerably exceed that amount in 1873; while the publications sent out from it to various parts of the Province, will amount this year to not less than \$50,000, and will doubtless much exceed that amount in 1873. The fees from the Model Schools, and

* NOTE.—Four Reasons why "The Trade" is incompetent to take the place of the Depository in supplying our Schools.

To the statement that private booksellers can supply the library wants of the Schools, as well, or nearly as well, as the Education Department, our reply is fourfold:—

1st. That a Department, specially charged with the care and oversight of the Schools, being a disinterested party, must be much better qualified to minister to their wants in these respects than interested parties, who, as a rule, have no other object in view than commercial gain.

2nd. That the experience of educationists on this subject is, that booksellers, through their agents and travellers throughout the rural parts, have, with some good books disposed of immense quantities of pernicious and worthless books.

3rd. That if the right of supply is thrown open to booksellers indiscriminately, the bad as well as the good will take advantage of the facilities thus afforded for flooding the country with their own publications without check or restraint. To restrict the right of supply to one or more publishers would be to perpetuate the so-called "monopoly" in its most oppressive and offensive form. If a change be made at all, it must be in the direction of throwing open the right of supply, and giving all vendors alike full permission to circulate such books as they please—bad as well as the good.

4th. No private publishing house, even in the cities, could, without having the "monopoly" of supply secured to it, be able to keep more than one-half of the variety of books, maps, charts and apparatus, which would be necessary for circulation in our 5,000 schools. Nor could it supply them at the low prices at which they are now furnished to the trustees.

paid into the Provincial Treasury, will amount to at least \$8,000.

In the New England States, especially the State of Massachusetts, where views and experience of public education are most advanced, any appropriation for educational purposes is not regarded as an expenditure but as an investment, which pays back to the country in various ways, a compound interest on the money invested in and spread over the country itself, and not sent out of the country, or put into the hands of a few individuals for private purposes, but altogether employed for public purposes.

2. The expansion of even any private enterprise or establishment, much more the expansion of a public system for the advancement of the most important department of the public service, involves a corresponding increase of expenditure for its support and extension.

3. In the increase of expenditure must be taken into consideration the circumstances of the country and domestic expenses generally, in comparison of those of former times, and the comparative remuneration of skilled labour in commercial and manufacturing transactions.

STATEMENT OF THE PROVINCIAL TREASURER'S RECEIPTS FROM THE EDUCATION DEPARTMENT, FOR THE YEAR ENDING 31st DECEMBER, 1872.

SERVICE.	PARTICULARS.	
Normal and Model Schools.	Fees, Pupils	\$8,422 00
	Interest on \$1,000 Dominion Stock to 30th Sept., 1872	66 00
	Interest on Debentures	13 41
		8501 41
From Depository.	Sales of Maps, Apparatus, Prizes and Libraries during year	33,824 28
Superannuated Teachers.	Subscriptions during y'r. 10,963 71	
	Interest on \$2,000 Dominion Stock to 30th Sept., 1872	120 00
		11,083 72
Journal of Education.	Subscriptions and Advertisements	264 93
Museum	Sales of Photographs....	3 97
Contingencies, Education Office.	Postage Stamps	119 28
	Total	\$53,797 58
W. R. HARRIS, Accountant.	(Signed) ADAM CROOKS, Treasurer.	

Treasury Department, Toronto, 31st Dec., 1872.

NO PAYMENT TO UNQUALIFIED TEACHERS.

DECISION OF THE COURT OF QUEEN'S BENCH.

Public Schools—Action by teacher for salary—Want of qualification.

A school teacher sued the trustees in the Division Court for his salary upon an agreement under defendants' corporate seal, by which they bound themselves to employ the powers legally vested in them to collect and pay him; and upon the common count for work and labour. It appeared that he was not a legally qualified teacher, but that he had taught the school during the time claimed for.

Held, that he could not recover. 1. Because by Consol. Stat. U. C. ch. 64, sec. 27, sub-sec. 9, as amended by 34 Vic. ch. 33 sec. 30, defendants were prohibited from giving an order in his favour on the local superintendent, and the latter, by sec. 91, sub-sec. 2, from giving him a check upon the treasurer. 2. Because, if entitled to payment, his remedy would be by mandamus, or a special action, not by an action for the money, which was not in defendants' hands. *Quære*, as to the meaning of 34 Vic. ch. 33, sec. 27, O.

This was an appeal by the Chief Superintendent of Education for Ontario, under the provisions of the 108th and following sections of the Upper Canada Common School Act, chapter 64 Consol. Stat. U. C., and sec. 27 of 34 Vic. ch. 33, O., the action in the Court below being one brought by the respondent Wright against the trustees in their corporate capacity in the Fifth Division Court of the County of Huron. The statement of claim was as follows: George Wright, of the Township of Stephen, &c., claims of the Trustees of School Section No. 3, &c., the sum of \$217.08. For that the said School Trustees, by instrument under their corporate seal, bearing date the 23rd of August, 1869, for the consideration

therein mentioned covenanted to pay the said George Wright the sum of \$320 per annum, in four equal quarterly instalments from that date, for his services as their teacher; and although the said Wright duly performed the agreement on his part, the said School Trustees have made default in the payment of \$217.08, being a balance of the said yearly salary, which sum the said Wright claims of the said Trustees.

At the trial, before the learned Judge of the Division Court, the claim was amended by adding a claim for work and labour done by Wright for the said Trustees at their request, and the following agreement was proved:

We, the undersigned Trustees of School Section No. 3 in the Township of Stephen in the County of Huron, by virtue of the authority vested in us by the U. C. Consolidated School Act, have chosen George Wright, who holds a second class certificate of qualification, to be a teacher in said school, and we do hereby contract with and employ such teacher at the rate of \$320 per annum from and after the date hereof; and we further bind and oblige ourselves and our successors in office faithfully to employ the powers with which we are legally invested by the said Act to collect and pay the said teacher during the continuance of his agreement the sum for which we hereby become bound, the said sum to be paid to the said teacher quarterly. And the said teacher hereby contracts with the trustees herein named and binds himself to teach and conduct the Common School in said School Section according to the school law and the regulations which are in force under its authority. This agreement shall continue in force for one year from the 1st day of January, A.D. 1870, unless the certificate of the said teacher should be in the meantime revoked or annulled according to law, and shall not include any teaching on Saturdays or on other lawful holidays and vacations prescribed under the authority of the school law, but all the holidays and vacations shall be at the absolute disposal of the teacher. Given under our hands and seals of office this 23rd day of August, A.D. 1869.

(Sgd.) WM. BAGSHAW, JNO. SNELL, WM. PENTHALL.
GEORGE WRIGHT, Teacher.

The case being heard, the learned Judge decided against the Trustees, giving the following judgment:—

"This is a case of special contract between the plaintiff, George Wright, and the Trustees of School Section No. 3, of Stephen. The claim contains a statement of the contract dated the 23rd of August, 1869, for payment of \$320 in four equal quarterly payments, and claims \$207.08 as a balance of which defendants have made default in payment. The claim also contains a common count for work and labour done by Wright for the School Trustees at their request (this count was added on application at the hearing). I cannot give the evidence in detail, as unfortunately my note book, containing the evidence has been lost, but suffice it to say, that the contract was proved, and the services duly rendered by the plaintiff under the contract, and non-payment admitted. The objection to the plaintiff's right to recover was, that he was not a legal teacher, never having obtained a certificate of qualification. I disregarded the allegation that the plaintiff was not a legally certified teacher as being outside the question substantially at issue. The services were duly rendered by the plaintiff. Defendants did not deny that they were so rendered, and the question resolved itself into this, viz: Whether the defendants were entitled to retain and employ the services of the plaintiff without remuneration, or whether they should pay for those services out of the fund put under their control for the purpose of payment. I had little hesitation in deciding that defendants should pay, and gave judgment accordingly."

The learned Judge also added and certified that the evidence showed that the plaintiff, Wright, was not in fact a legally qualified second-class teacher.

From this decision this appeal was brought.

The case was argued during this term. *Bull*, for the appellant. *Robinson*, Q. C., for the respondent.

The statutes and authorities referred to are cited in the judgment.

MORRISON, J.—By sub-sec. 8 of sec. 27 of the Common School Act, Consol. Stat. U. C. ch. 64, the trustees of each school section are authorized and it is their duty to contract with and employ teachers for such school section, and determine the amount of their salaries.

And by the School Law Amendment Act of 1850, 23 Vic. ch. 49, sec. 12, "All agreements between trustees and teachers to be valid and binding shall be in writing signed by the parties thereto, and sealed with the corporate seal."

And by sec. 80 of ch. 64 "No teacher shall be deemed a qualified teacher who does not at the time of his engaging with the trustees, and applying for payment from the school fund, hold a certificate of qualification as in this Act provided."

By the 27th sec., sub-sec. 1, the trustees are to appoint a Secretary-Treasurer to the corporation, who shall give security for, among other things, the receiving and accounting for all school moneys collected by rate bill, &c., from the inhabitants of the school section, and for the disbursing of such moneys in the manner directed by the majority of the trustees.

And by the 23rd section of the 34 Vic. ch. 33, Ont. "All moneys collected in any school section by the trustee corporation shall be paid into the hands of the Secretary-Treasurer thereof; and should the trustees refuse or neglect to take proper security from such Secretary-Treasurer, they shall be held responsible for such moneys."

And by the 9th sub-sec. of sec. 27 Consol. Stat. U. C., it is the duty of the trustees to give the teachers employed by them the necessary orders upon the local Superintendent for the school fund apportioned and payable to their school section. And as amended by the 34 Vic. ch. 33, sec. 30, sub-sec. 4. "They shall not give such order in behalf of any teacher except for the actual time during which said teacher, while employed, held a legal certificate of qualification." And by sub-sec. 2 of sec. 91 of Consol. Stat. U. C. ch. 64, the local Superintendent is to give to any qualified teacher (but to no other) on the order of the trustees of any school section, a cheque upon the County Treasurer for any sum of money apportioned and due to such section."

In the case before us the trustees and the teacher entered into the usual agreement, whereby the trustees bound themselves to employ the powers with which they were legally invested by the School Act to collect and pay the teacher during the continuance of his agreement, and the suit in the Court below was brought, according to the claim attached to the summons, to recover from the trustees \$217.08, being an alleged balance of salary under that agreement, and the learned Judge reports that the plaintiff was not in fact a legally qualified second class teacher.

I think the objection taken in the Court below, that the respondent was not entitled to recover against the trustee corporation the claim for salary, he not being a legally qualified teacher, was well founded, and the learned Judge upon that ground should have decided in favour of the trustees.

It has been held in this Court, *Stark v. Montague*, 14 U. C. R. 474, that the trustees cannot impose a rate for paying the salary of an unqualified teacher, and that such a teacher cannot be allowed to receive any portion of the school fund. The trustees are prohibited by the sub-sec. 9 of sec. 27 from giving such a teacher an order on the local Superintendent for his salary, and the latter, by sub-sec. 2 of sec. 91, from giving an unqualified teacher a cheque on the Treasurer.

I must say the 27th sec. of 34 Vic. ch. 33 Ont., is far from clearly expressing the intention of the framers of it. It does not point out in what way the matters in difference are to be brought and decided in the Division Court, whether as an ordinary suit, as this was, or in the nature of a proceeding before the Judge as an Arbitrator, or in any other way, and when decided by the Judge it does not say in what manner or from whom any moneys are to be collected or recovered. It certainly gives the Judge no power to carry into effect any decision arrived at by him, as the repealed section provided, unless we assume that what the Legislature meant was to give the teacher the right to bring an action in the Division Court against the trustees for any matter in dispute between them, although the subject matter (as in this case) was beyond the ordinary jurisdiction of that Court. If so, and I think that is the only construction we can give to the section; then, irrespective of the objection of the plaintiff below being an unqualified teacher, there is another ground upon which I think we must allow this appeal. The action is brought by the teacher against the corporation to recover an amount due as a salary. In *Quin v. School Trustees*, 7 U. C. R. 137, Sir John Robinson said, "We think the action against the trustees is altogether misconceived. They (the trustees) are sued as if the money for paying teachers were in their hands, and were to be paid over by them to the teachers; but that is not so. According to 9 Vic. ch. 29 (the provisions of which were similar to the present School Act) "it is the district (now local) Superintendent who is to pay the money, not the trustees, so far at least as regards that part of it which is paid by the Government. As to the portion raised by rate upon the inhabitants, that also, by the enactments of the law, goes into the hands of the Treasurer, who is merely subject to their order, and in neither case can they be liable to an action for not paying the money. They are public officers, who have only to discharge their proper duty. If they refused to make an order, a mandamus would lie against them or perhaps a special action for not making the order, but not an action for the money, for that is not in their hands." And by the agreement made with the respondent the trustees only bound themselves to employ the powers with which they were legally invested by the School Act to collect and pay the teacher. They were not invested with any power to

remunerate a teacher not duly qualified, which was the case with this respondent.

As to the claim under the count for work and labour done for the Trustees, which the learned Judge allowed to be added at the trial, it does not appear clear whether under that count he considered the respondent entitled to succeed. The observations at the end of the learned Judge's decision would lead me to think he did, but be that as it may, the respondent was not entitled to recover, as it is clear that there can be no binding or valid agreement between the trustee corporation and the teacher except in writing and under their corporate seal. See sec. 12 of the Act of 1860.

On these grounds I think that the appeal should be allowed, that the verdict in the Court below should be set aside, and the verdict entered for the defendant with the costs of suit below.

WILSON, J., concurred.

Appeal allowed.

II. Education in Various Countries.

1. NEW BRUNSWICK SCHOOL LAW.

The opinion of the law officers of the Crown in England on the New Brunswick School question, has been received. It is as follows:—

"We report that we agree substantially with the opinion expressed by the Minister of Justice, so far as appears from the papers before us. Whatever may have been the practical working of annual education grants in the Province of New Brunswick, the Roman Catholics of that Province had no such rights, privileges, or schools as are the subjects of the enactment in the Act of 1867. It is, of course, quite possible that the new statute of the Province may work in practice unfavourably to this or that denomination therein, and therefore to the Roman Catholics, but we do not think that such a state of things is enough to bring into operation the restraining powers or the powers of appeal to the Governor-General in Council, and the powers of remedial legislation in the Parliament of the Dominion, contained in the 93rd sec. We agree, therefore, in the practical conclusion arrived at by Sir J. A. Macdonald.

"(Signed)

"J. D. COLERIDGE."

2. SCHOOLS IN THE UNITED STATES.

According to the census of 1870, the total number of schools in the United States was 141,629 for males, and 127,713 for females. The total number of pupils was 7,209,938—3,621,996 being male, and 1,587,942 being female. The total income of all the schools was \$96,404,726, of which \$3,663,785 came from endowments, \$61,476,039 from taxation, and \$29,992,902 from all other sources, including tuition. The total income reported is nearly three times that for 1860, and nearly six times that for 1870. It is considered quite impossible that there should have been any such increase; and the apparent augmentation is, without doubt, referable to a failure on the part of the census officials to secure complete returns. Of the total number of schools reported, the public schools were 127,059; classical, professional, and technical, 2,545, and others 14,024. The total number of teachers in the Public Schools was 183,198 and in the classical, professional and technical, 12,767. The number of pupils in the latter class was 245,190, and in the public schools, 6,228,069.

3. EDUCATIONAL EXPENDITURE, STATE OF NEW YORK, 1872.

The following table shows the entire amount expended during the year for the maintenance of public educational institutions, not including appropriations made to orphan asylums and other public charities in which instruction is given:

For the wages of common school teachers	\$6,957,455 77
For district libraries	26,059 50
For school apparatus	225,681 44
For coloured schools	66,525 17
For buildings, sites, furniture, repairs, etc.	1,988,923 18
For other expenses incident to the support of common schools	1,151,800 82
State appropriation for support of academies	41,746 50
State appropriation for teachers' classes in academies	15,080 00
For teachers' institutes	16,190 28
For normal schools	174,339 23
For Cornell University	44,000 00
For Elmira Female College	3,500 00
For Indian schools	7,690 94

For salaries of school commissioners	\$90,187 33
For Department of Public Instruction	19,620 08
For Regents of the University	6,242 26
For printing reports and school registers	13,958 72

Total	\$10,849,001 20
Corresponding total for 1871	9,880,185 06

Increase	\$968,816 14
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4. ADVANTAGE OF SCHOOL DRILL.

The authorities in Massachusetts declare that the vigorous and effective military drill, given to all the boys in the high schools of that State, has been of "incalculable benefit," to them in improving their physical health, while it is promotive of excellent disciplinary results.

5. EDUCATION IN GERMANY AND THE WAR.

Since Prussia has assumed the leadership of the German empire consisting of twenty-seven States, counting Alsace and Lorraine the population is about 40,000,000.

All the schools of every grade have been placed under the jurisdiction of the Prussian Ministry of Public Instruction at Berlin, and the whole system, merged into that of Prussian education, has reached a high standard. The per centage of illiteracy is very small. The annual examination of recruits for 1869 and 1870, showed only about three per cent. that were not acquainted with reading, writing and arithmetic.

During the war the German schools suffered severely in all the grades. A large number of students and some professors of the university, as well as many scholars from the gymnasium and real schools, joined the army. About 4,000 teachers of elementary schools were found in the ranks.

Several practical School teachers stationed at Berlin are about to petition the Prussian Minister of Education on the subject of schooling age, which, they are unanimously of opinion, ought not to begin before the seventh year.

6. TECHNICAL EDUCATION IN ENGLAND.

THE movement in behalf of Technical Education has of late been rapidly progressing. Next month the first of the proposed Technological Examinations of the Society of Arts will be held, and we may hope for a good deal from them. It will be remembered that these examinations are the outcome of a Congress held last year under the presidency of Prince Arthur, to consider the best means of advancing Technical Education in this country. The necessity of some provision for such education is but too evident. In more than one branch of industry our workmen are left far behind by those of other countries, and the want is too pressing to need much insisting upon. Since this scheme was first determined upon, we understand that the society has been engaged in carefully considering a detailed plan of examination, and this plan is now before the public. It was found that, at first, it was only possible to take up a very limited number of subjects. Those selected for the present year are Cotton, Paper, Silk, Steel, and Carriage-building. In order to pass the Society's examinations, it is essential that the candidate should possess, in the first place, "such an elementary, knowledge, at least of abstract science as will enable him thoroughly to understand the scientific principles of which his art or manufacture is an application;" and in the second place "such a knowledge of the application of those principles in his trade as will show that he is practically conversant with the various processes and manipulations of the factory or workshop." The theoretical knowledge also is not to be a mere "cram" of empirical dicta, nor the practical knowledge a mere committal to memory of descriptions of manufactures picked up from text books.

The difficulty of getting at the knowledge of each candidate will be considerable, and upon the result of these examinations—experimental as they are—a great deal will depend. If they are searching, and really afford a true test, nothing more can be hoped for; but if they merely test the memory and the "cram" power of the candidates, they will be next to useless. That they will avoid this danger, we sincerely hope, and indeed, from the care with which, we believe, the preliminary arrangements have been made, we have every reason to expect it.

The Candidate's knowledge of general science is to be tested by the Examination of the Science and Art Departments; but we are glad to understand that too much stress will not be laid upon

the proficiency of the candidate in any branch except the special one in which he is to be examined. To our thinking the examinations should be entirely *special*, leaving general knowledge to be tested by other means. The examination in "Technology" is to be by a special examination paper, to be worked in conjunction with these examinations. The practical skill is to be judged by the returns of the candidate's employment, for some years past, in his particular art or manufacture. For these examinations Certificates of three classes will be awarded—Honours, Advanced Grade, and Elementary Grade, and there are also prizes, general and special, for remarkable proficiency. *London Educ. Times*

7. EDUCATIONAL REVIVAL IN EUROPE.

In his Saturday evening lecture, at the Lowell Institute, Mr. Northrop spoke of the recent educational revival in Europe and its causes, describing the progress in England, Austria, Russia, Italy, and Turkey. Among the causes of this great movement in England were named, 1. Passage of the Household Suffrage bill, which prompted Mr. Lowe to say, "Now England must educate her masters;" 2. The Birmingham Educational League. 3. New publication of statistics mainly by the League as to the relation of ignorance to crime. 4. Similar facts on the relation of ignorance to pauperism. The latter statistics were appalling. Up to 1869 pauperism had been greatly increasing during the previous decade, an average increase of over 400 per week. The latest reports show now a marked decrease. 5. Paris Exposition. England fared ill in that comparison of the world's industries. This unwelcome surprise prove in the end a good lesson to the nation. On returning from Paris Professor Tyndall said "England will be outstripped both in the arts of peace and war by the continental nations, in virtue of their better education."

Another of the official inspectors of the exposition, Mr. Edward Huth, said, "The want of education has hindered our progress in manufactures. Many of our workmen have no education. That of other nations is superior. With them it is not a machine that works & machine, but brains sit at the loom and intelligence stands at the spinning-wheel." J. Scott Russell, the architect of the "Great Eastern" and consulting architect of the Vienna Crystal Palace, now nearly completed, said, "The leading continental nations show growing skill and progress in proportion to the excellence of education. Poor England, standing by idea, is too late. Her working men and foremen, grown up uneducated, are too old to learn. We have lost a generation. Why did not our statesmen, already provided with special universities for their own training, foresee that trade was going away to more skilled nations and warn us in time? The contrast between England and Switzerland is this. England spends more than five times as much on pauperism and crime as she does on education. Switzerland spends seven times as much on education as on pauperism and crime."

Parliament appointed a committee to investigate this subject and their voluminous and able report proved both to England and all Europe that education is economy and ignorance means waste, if not weakness. An epitome of this report circulated widely in the continental papers of different nations. The sixth cause of the new educational movement was Sadowa and Sedan. These wars have served to impress the nations of Europe with the value of education as the source of power in war and thrift in peace, as both the cheapest and strongest defence of a nation.

Mr. Northrop spoke of the remarkable progress within two years in Italy and particularly in the City of Rome. Prior to 1870 free public schools were here unknown and "impossible." Now a good system is in operation. The change wrought in this brief time is marvelous. In less than one month after the entrance of the national government, the schools were started. The attendance, at first small, has steadily increased, and now over 7000 children are in the public schools. In the face of opposition and difficulties the schools have proved a success, and enlisted the sympathies of the masses. The first anniversary of the Plebisite (October 2, 1871) was celebrated by a grand school celebration which made a great sensation. It was held on the Campidoglio in front of the old Capitol. Nearly 7,000 children were assembled, and their songs and recitations were enthusiastically applauded by the thousands of citizens thronging this square. It was made a gala day. The city donned its proudest festive attire. The fronts of the surrounding palaces were gaily decorated with national and Roman banners. A lofty semi-circle of seats rising one above another was filled with a chorus of five hundred children—the best singers in all the schools. On a raised platform in front sat "The Conscript Fathers." Numerous prizes were distributed to the children. In the evening the city was illuminated, including a grand illumination of the old Coliseum. This exhibition settles the question as to the popularity and permanence of the public schools of Rome. Grand as were the old Ro-

man military displays on the Capitoline Hill, where the conquering Cæsars led their triumphal processions and long trains of captives, it may be doubted whether this classic spot ever witnessed a scene so impressive and significant as was this simple gathering of the children, with their demonstration of the beneficent agency of public schools.—*Ib.*

III. Papers on Practical Education.

1. ÆSTHETICS OF THE SCHOOL-ROOM.

The Creator has so ordered his work that sky and sea, blade, bud and flower, all animate and inanimate things, sing forth their lessons of beauty unceasingly. Who hath ears to hear them may hear and be made glad. Beauty and use are so co-ordinated and commingled in nature that there is neither inferior nor superior. The useful is only then most useful when added to the beautiful; and the beautiful is most beautiful when conjoined to the useful, and with it looking toward a purpose.

It seems the extreme of folly, even though life be "a warfare," or "a vale of tears," to ignore the existence of so much that is competent to bless and save us in its bitterness. Even a little clay wrought by the hand of the Master is sufficient to open the blindest eyes to the infinite loveliness everywhere. Possibly every teacher may secure the anointing of, and so get such a love for beauty into the deep places of the soul, that she, too, may work miracles, transforming by her plastic touch unsightly and unlovely things into things goodly and to be desired. At any rate, every school-room furnishes abundant opportunity to test the ability to do this.

All general effects are produced by the most careful attention to particulars. No woman of taste takes up her residence in a house without studying the minutiae of its possibilities. The relation of wall to carpet, of both to furniture, the effects of light and shade, the distribution of ornament, are all carefully considered. But the same woman, as teacher, does not always use her sense of beauty to make the most of her school-room. The school-house is a shop—a place in which to work, and from which to flee as early as possible. Thus she makes herself the servant of her work. School duty is her antagonism, and it is victor by the ruling of the clock on the wall. As soon as one so puts her soul into her surroundings as to make them the complement of herself, she makes for herself, a place more to be desired than all others. So it is not difficult to see how little skilful labour would make the school-room delightful and install the teacher mistress of the situation.

There are in every school-room possibilities in the arrangement of furniture which may be made use of to produce pleasant effects. The table, the chairs, the stove, the maps and charts, all should be made to contribute to this end. A table spread, even a clean towel or a newspaper, will serve to cover the defects of an old table and make it presentable. Broken and rickety furniture must go out of sight. Better a clean, whole stool, than never so elegant a chair in dilapidation. In warm weather an ill-looking stove is easily converted into a pretty flower-stand by some forest boughs, or some asparagus, with bouquets and pots of flowers which the pupils will bring if encouraged to do so. If it is winter some stove polish will make it look new and tidy. The stove of a school-room is often the sum of all villainies, æsthetically. It is made the receptacle for bits of apple, remnants of lunch, pieces of paper, and all the inevitable debris of school. The hearth serves for a spittoon, and the zinc is soiled with ashes, chips, and melting ice and snow. There is no need of such an insult to the good taste of the school.

Teachers may make a great deal of the effects of light and shade in their rooms if they study them. Pupils are made restless, and both children and teacher become irritable by a light too intense glaring upon them. Then, to shade the sunny windows and to open those on the shady side, would be to introduce comfort and quiet. Again, on a dark or cold day to open up the lightest and sunniest side, to get all the sunshine and warmth possible into the house, is to bring in inspiration and joy. One cannot teach the best school without window curtains or blinds. The material is not so important, as the service they render in adapting the light to the comfort of pupils and teacher. I know a teacher who, in the first school she taught, made hers of newspapers, ornamented at the lower border with devices wrought with scissors and fastened them up with hammer and nails! Nevertheless, they were good curtains, and helped wonderfully to teach the school.

Much can be done toward making a room pleasant by a skilful seating of pupils. There are harmonies of proportion and colour to be observed. A girls' school always seems brighter than a mixed school, and a mixed school brighter than a boys' school. The colours of the dress of girls give warmth to the room in winter and the light clothing of summer gives an air of freshness and coolness. The eye requires that the pupils shall be graded from rear to

front according to size. A hap-hazard arrangement in this regard is never satisfactory.

It is fortunate for the school if the teacher writes well. When the boards are kept black and in good condition, the teacher's work is well done upon them, and the pupils are constantly reminded of their duty in this direction. Nothing is more really ornamental in a school-room than a good board covered with well-written work—problems, copies, abstracts of lessons, etc. Much model work of this sort should stand upon the board all the time, that unemployed children may have something to copy upon their slates.

Thus far I have said nothing of ornamentation; but every teacher can do something in this regard. Pretty hanging-baskets can be made at absolutely no expense. Pots of flowers and mosses can be had for the taking care of them. The world is full of pretty, cheap pictures. They may be taken from any of the first-class illustrated papers. One who is looking for them will find an abundant supply. Some medium-sized picture frames can be procured, and then by changing the pictures from time to time, the school will always have something new at no expense. One of the most successful primary teachers I know brings every week into her school a new object of interest. It may be a picture, or a hanging basket, or a bracket and vase—it is something which the children enjoy, and in the bringing of which they see an effort to make them happy. She takes an early opportunity to have a conversation upon it, and then gives it to the school until she has occasion to replace it by some other object of interest. I know another who is constantly

planning pretty drawings for her board. She makes a practice of having something new upon the board every Monday morning. Her pupils have learned as they come in to look for the pleasant surprises she prepares for them. Still another has several pictures which are owned a month each by classes of pupils. A card suspended beneath the picture gives the name of the for-the-time owners. One of them belongs to the pupils who are perfect in attendance for a month; another to the twenty who have stood highest in their lessons for a month, and a third to pupils whose deportment has been without criticism for a specified time. In this way every child has something to work for. One cannot get perfect lessons, perhaps, but can come to school regularly, or can be perfect in conduct. Each child is likely to have a share in one or other of the pictures. If no one earns them they are taken down and put away. So every one is working not only for himself, but for the school. In this way the ornaments of the school are made not only silent ministers to happiness, but positive forces in the school-room.

But, after all, the soul of the teacher has greatly to do with the beauty of the school. A light glows in the face of the conscientious, gentle, sympathetic teacher, which illumines all the room with its brightness. In the reflection of her own character she sees in the seats truthfulness, confidence, respect and love. And so the spiritual beauty sanctifies and glorifies all the beauty secured by ornamentation—by any and every device in material things.—*Miss Lathrop.*

2. TACT IN TEACHING.

No accomplishments, literary attainments, or moral worth, can insure success in education without that tact which will enable the teacher to comprehend the characters of her pupils, to gain their affection, and to control and influence their prejudices and prepossessions. This is not the work of a day or a month; those teachers who ultimately gain the greatest ascendancy over their pupils may, for a time, seem to have made little progress towards this end, while more superficial persons, by assuming at first an appearance of great softness of manner, by caressing and patting the little dears, may be admired as *very lovely, very amiable teachers*. But young persons are not slow in detecting any attempt at deception; they soon learn to consider this fondness as a sort of mannerism assumed only for effect; and whenever they get such an impression, they give those who have charge of them little credit for any sincerity. A person of good judgment will not, then, begin with her pupils by flattery or caresses; she will endeavour to define their duties with precision, and will seek, at first, to inspire respect rather than love; knowing that the former once secured, the latter will easily follow.—*Mrs. Lincoln Phelps. "The Student."*

3. TEACH CHILDREN TO THINK.

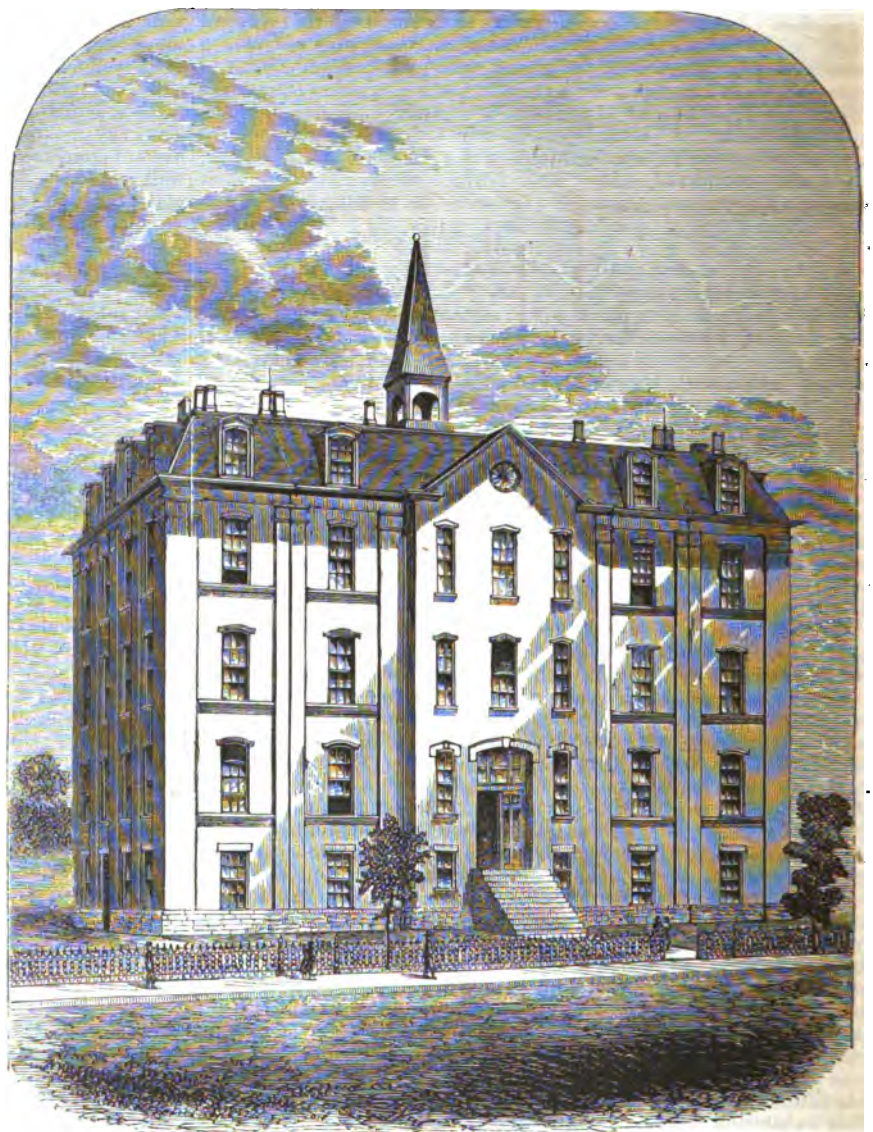
Now if you would know what the effects of thinking are, compare Athens with China. Here are three hundred millions of people—more than one-third the human race—whose history goes far back into remote antiquity, and who commenced with no small share of the arts and sciences, but who have added not a single particle to knowledge nor taken one step in improvement; whose only policy is to prevent innovation, and whose only power is to perpetuate succession. Here is another people, whose population does not exceed one-tenth that of Ohio, whose place can scarcely be found on the map, who commenced barbarians, yet who have given to the world new sciences and new arts, and whose mighty men infused into language

"Thoughts that breathe and words that burn;"

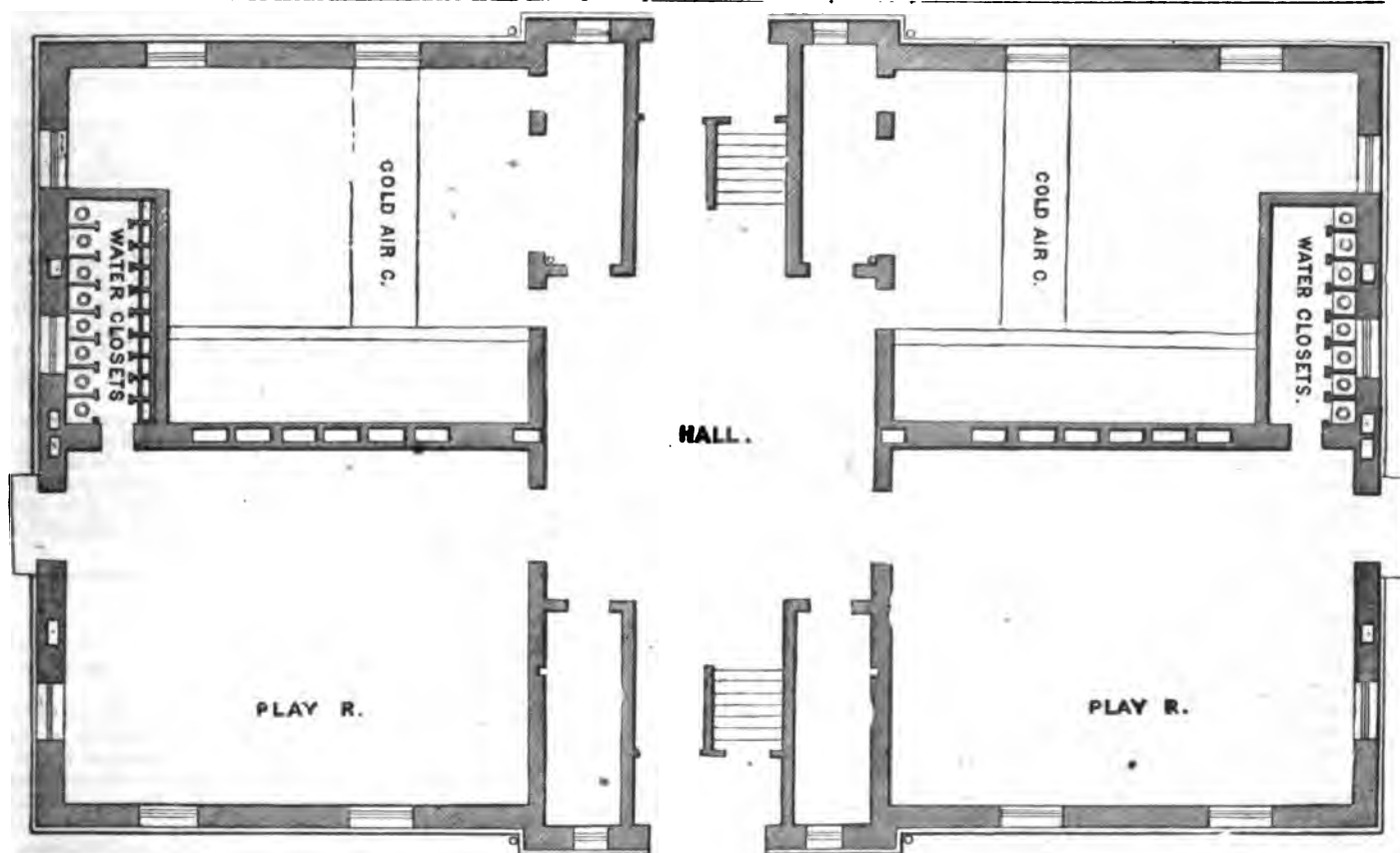
who reconquered their conquerors by the spirit of eloquence, and whose renown has filled the earth.

What makes this mighty difference? The one learned to repeat, the other to think.—From "*American Education, its Principles and Elements.*"—*Mansfield.*

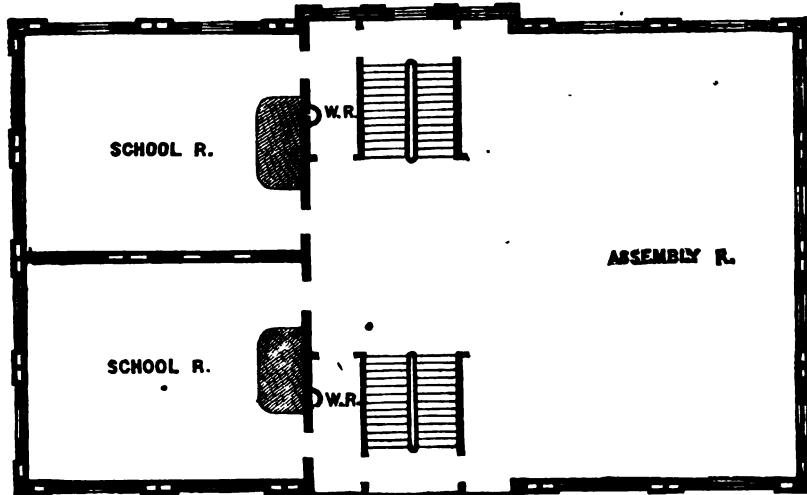
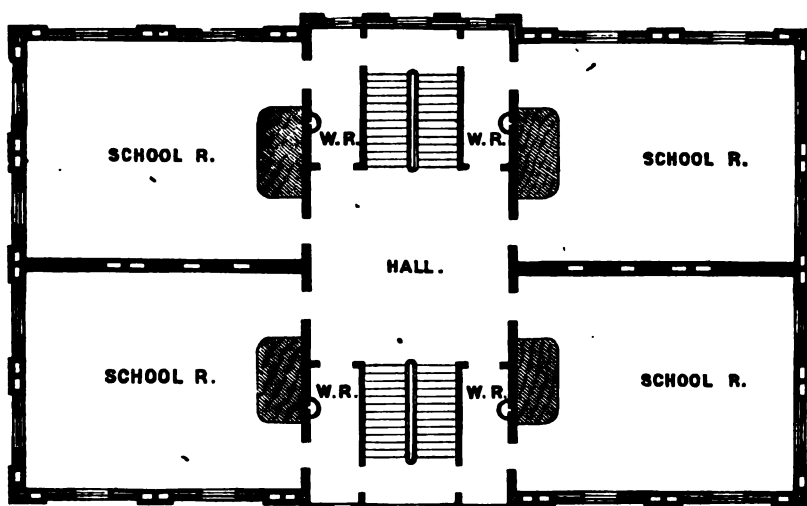
IV. Improved School Architecture.



DESIGN FOR A FOUR STORY SCHOOL HOUSE.



F. L. E.



3RD FLOOR.

The size of this four-story school house is ninety-four by fifty-six feet, four stories high, with a mansard French roof. The basement, which is eleven and a half feet high, contains play-rooms, heating apparatus, &c. The second floor has four school rooms, thirty-two by twenty-six feet, and fourteen and a half feet high. The third floor is like the second, but the rooms are sixteen feet high. The fourth floor has two school rooms of the same size of those below, and a hall fifty-five by fifty-two feet. The school rooms and the hall are sixteen feet high. Each room has a separate clothes room, with water, and everything for the comfort and convenience of the school. The cost of the building, including heating apparatus, fences, and side-walks, was \$47,396.77. The lot, which is inclosed by an iron fence, and surrounded with a flag-stone walk, cost \$2,500. Total cost of the whole, is a little less than \$50,000.

2. THE HEALTH OF THE CHILDREN IN THE PUBLIC SCHOOLS.

THE United States Commissioner at the Paris Universal Exposition of 1887, in his report on the subject of education, remarked, "The United States are annually expending immense sums of money—amounts that can only be enumerated by millions—in the enlargement of the old and the construction of new school-buildings not one thousand of which, in either structure or surroundings, has regard to the principles involved in the material conditions necessary to the physical, intellectual, and moral health of the children." We do not know what effect this startling announcement produced at the time of its utterance, but we are pleased to observe that of late the educational journals have begun to wage an earnest war against the carelessness of the authorities in matters concerning the physical welfare of the children who attend the public schools.

The American Educational Monthly for January says, "Those who have read the translated report of Virchow upon the injurious influence of schools upon the health of pupils, which has appeared in these columns, will see that a commencement has been made in the exact study of this most important subject. And the labour promises to result in an abundant harvest. It is found that education, as now acquired, is often purchased only at the price of suffering and sickness. Headache, near-sightedness, consumption, contagious disease, dyspepsia, and spinal

curvature are some of the maladies which are found to exist in schools, and to be in a great measure dependent upon the present method of 'going to school.' Now, our common sense indicates that these evils cannot be necessary concomitants to the acquirement of knowledge; and we therefore inquire, what causes exist at present to which these diseases may be attributable?

"Some of these causes almost force themselves upon our notice. The overcrowded, overheated, and ill-ventilated school-rooms which some of us have studied in or visited, the protracted school hours, the constant bending forward of the head and a forcing of the immature brain,—these are some of the evils which come at once to mind. Then, to quote from the report, 'defective light, a bad arrangement of the windows, careless methods of sitting, the use of too small type, and a too fine handwriting, have more or less agency in the production of near-sightedness. It is also thought that a defective form of school-bench has been sometimes instrumental in causing cerebral consumption, defective respiration, and spinal deformity.' As an additional agent in the production of defective vision, pale writing-ink, the use of which produces a severe strain upon the sight, should be mentioned. . . . Life is said to be made up of trifles; at all events, no one should under-estimate their influence in forming the great totals of health and sickness, happiness and misery, life and death."

The *Maine Journal of Education*, in its issue for February, observes, "In any ordinary school-room, tolerably filled with pupils, and with closed doors and windows, the whole atmosphere becomes seriously contaminated in less than an hour. Now, when such air is taken into the lungs, it fails to purify the blood, and impure blood, when sent to the brain, causes headache, drowsiness, and irritability of the nervous system, and eventually impairs the vitality of the system and its most important organs, and lays the foundation of incurable diseases. The uncomfortable mood of pupils, and of teachers too, when 'everything goes wrong,' may generally be ascribed to this single cause. Good pure air is a very efficient agent of school government. It is the duty of the teachers to see that the pupils have it. But very few school-houses are supplied with ventilators; and therefore the teacher must resort to his ingenuity and good judgment. . . . When the air in a school-room is bad, the teacher is largely at fault."

"Inequality of temperature in the school-room is the source of much discomfort to pupils, and oftentimes of aggravated disease. The happiness and suffering of children are more affected by physical causes than are those conditions in the case of adults. Pupils find it exceedingly difficult to keep their mind upon their studies, or to be comfortable, when they are suffering from cold feet, or when the thermometer in winter is at 80 degrees, or in summer at 90 degrees."

"The temperature should be kept as uniform as possible; and for this purpose there is no sure guide but a thermometer. Our feelings are not to be relied on in judging of temperature. The same room will seem warm to one person and cold to another. Thermometers are not expensive; and if the school authorities will not furnish one, the teacher will find it for his interest and comfort to obtain one at his own expense."

Bad positions in sitting and standing, should be carefully watched and corrected. They are the frequent cause of curved spines, bow legs, contracted chests, and other distortions which are both unsightly and injurious."

The *West Virginia Educational Journal* for March remarks, "It is true that it costs something to build a proper school-room with provision for pure air, but in the end it costs vastly more not to incur this expense, and thus to injure the health of the school, although it may enrich the doctors and sell lots in a graveyard. Let us call the special attention of school-boards and teachers to this important matter. It might be well for the legislature to provide by law that every school-room in the State shall be inspected by the several county superintendents, and closed by them where they are not properly ventilated, until such ventilation is provided for."

These statements, it seems to us, need no comment.

3. EFFECTS OF VITIATED AIR IN SCHOOL-HOUSES.

Sad revelations have been made in New York City in regard to the vitiated atmosphere of a large proportion of the public schools. The *New York Tribune* gives the cry of alarm. It declares that while the political and social economists are crying out for compulsory education, a counter-cry arises from the physiologist for compulsory evacuation of the present school buildings of that metropolis, as actual pest houses. The results of official inspection seem amply to justify this alarm. In several school-rooms the air has yielded to analysis nine times the allowable amount of carbonic acid, to which must be added the accompanying and deadly organic impurities which cannot so easily be measured. The lack of any

efficient means of ventilation, and the over-crowding of the rooms, have occasioned this impure air. In addition to this, in many cases, the condition of the cellars and of the grounds under the windows is one of reeking and poisonous filth. 'Corruption within and corruption without!'

This should be a timely reminder to us to look to the ventilation of our school houses. There are too many of them, to our certain knowledge; they are disease-traps, into which we force our children. In very many of our school-rooms no pretence is made of any ventilating apparatus except the windows which are worse than useless. But even when under the best intentions, ventilating flues are provided, these are generally utterly inefficient. This has been often proved; and re-affirmed, after careful trials, in the late New York official reports. In connection with every flue there must be artificial appliances for compelling the air to rise. Only two kinds of appliances are known:—Revolving turrets or similar mechanical contrivances at the top of the flue—or some slight heating arrangement at its bottom, to warm and rarefy the air. A very simple and absolutely successful plan is to conduct a small pipe through the main ventilating flue, which shall act as a draught-pipe, to a small stove in the basement. Even a small gas stove would answer, as only the slightest increase of temperature is needed to start the current. Let our school committees look to this matter; now that we force our children into our schools, we are doubly responsible for the air we furnish them.—*Ib.*

V. Biographical Sketches.

1. THE LATE REV. J. G. D. MACKENZIE, M.A.

Mr. Mackenzie was born in the Island of Barbadoes, in 1822, his father, who had previously served in Wellington's army in the Peninsula, being at that time in command of a company of H. M. 1st West India Regiment. The family emigrated to this country in 1834, and settled in the neighbourhood of St. Thomas, in the County of Elgin. Mr. Mackenzie was soon after sent to Upper Canada College, where he evinced great aptitude and diligence, and laid the foundation of an excellent education. He entered the family of the present Bishop of Toronto at Cobourg as a private tutor in 1839, and continued there for about eighteen months, when he removed to Toronto, and in connection with the tuition of a few private pupils, was sub-editor of the *Church Newspaper*, being then about nineteen years of age. In 1843 he returned to Cobourg, to commence his studies in Divinity at the Diocesan Theological College established there, and by the late Bishop of Toronto was appointed Classical Tutor at that Institution. In June, 1845, he was ordained Deacon, and was appointed Curate to the Rector of Cobourg, where he gained the esteem of all classes of people. He took the degree of B. A. at King's College, and some years later his Master's Degree at Trinity College, Toronto. In 1846 he was appointed to the Incumbency of St Paul's, Yorkville, and at the same time also devoted himself to teaching. After ten years devoted service at Yorkville, Mr. Mackenzie was compelled by ill-health to resign his charge and for a time rest entirely from duty. As soon as his health permitted he removed to the mission of Georgetown. Here he spent three years of no little labour, as a rule taking three services each Sunday; labour, however, amply repaid by its results, and the affection he inspired among his rural parishioners. From thence he came to Hamilton. Here in the words of the Rev. J. Gamble Geddes, "He opened a private classical school which he conducted with great ability and success for a period of seven or eight years. Most of the leading gentlemen here placed their sons under his care, and he devoted himself with great assiduity and conscientiousness to the important task of training those entrusted to him as scholars and Christian gentlemen, giving every satisfaction to the parents and endearing himself to his pupils by his kindly and paternal treatment. The mental labour he underwent for many years, was too much for his physical strength, and he sought in change of occupation and constant change of scene that variety which seemed to alleviate the strain, and to relieve the dyspeptic complaint which sedentary habits had induced. For this reason he applied for the Inspectorship of Grammar Schools. About three months ago he was kindly allowed by the Department of Education to suspend his duties until his strength became recruited. On the 3rd of March he proceeded to Stratford accompanied by Mrs. Mackenzie, hoping to resume his duties as Inspector of Schools in that neighbourhood. On the following day he devoted two hours to the Grammar School in that town; and on returning to the hotel somewhat fatigued, he lay down upon his bed. Mrs. Mackenzie took the opportunity of calling upon a friend, while he was thus resting himself; but on her return shortly afterward he was found to be dead, lying in an

unconstrained posture, and with a peaceful and happy expression of countenance.

The Council of Public Instruction unanimously passed a resolution expressing its sincere regret at the demise of Mr. Mackenzie, who had been Inspector of High Schools during the past five years, its high sense of the value of his services, and of the impartiality, faithfulness, and efficiency with which he discharged his important duties as High School Inspector. We close this memoir with the words of Dr. Ryerson, the venerable Superintendent of Education, in transmitting the minutes of the Council to Mrs. Mackenzie. "The sudden removal of your lamented husband from the field of his duties and usefulness, and from the bosom of his family, has produced a profound sensation and excited the deepest sympathy in the minds of the members of the Council of Public Instruction, which unanimously and cordially adopted the minutes of which I enclose you a copy herewith. On my own part I feel that I have sustained a serious loss in the bereavement which has fallen so heavily upon you. It afforded me pleasure, though almost a personal stranger, to recommend the appointment of Mr. Mackenzie as Inspector of High Schools, and I have had increased pleasure in doing all in my power to consult his interests and wishes during the whole period of his continuance in office." Thus "ceased at once to work and live" a devoted clergyman and valued public officer. —*Hamilton Spectator*.

2. GEO. R. GREGG, Esq.

Born in Oswego, N.Y., of Irish parents, he removed to Toronto when quite a lad, and obtained a good English education here; and being studious and industrious he lost no opportunity of storing his mind with useful information, which subsequently admirably fitted him for the profession of which he was a brilliant member. About the year 1857 he first became connected with the staff of the *Leader*, and soon exhibited those journalistic abilities which won for him a name in Canada. Being sent as chief representative of this journal to the old Parliament of Canada he had an opportunity of becoming acquainted with the politicians of the day, and taking a lively interest in public affairs his correspondence soon attracted a good deal of attention—so much so that the letters of "Citadel" were always anxiously sought after by the public. In these letters our departed friend took a broad view of public matters, and although closely allied to the Conservative party, he used the lance freely whenever he deemed it necessary to do so in the interests of the public. His connection therefore with the *Leader* during a period of over thirteen years, was somewhat eventful; and in his capacity of Parliamentary reporter and associate editor, he became widely known and highly esteemed, not only on account of his talents but on his genial disposition. At the time of his death he was Parliamentary reporter on the *Mail*.

3. REV. THOMAS PULLAR.

Mr. Pullar was born in or near Perth, Scotland, in the year 1811, and was consequently in his sixty-second year. His ministry lasted over a long period of years. We are not aware when he was licensed to preach; he was, however, engaged in evangelistic labours before 1823. His education for the ministry was conducted under the able and pious Greville Ewing, of Glasgow. The prelections of Professor Ewing made a deep impression on the logical and clear intellect of Mr. Pullar, and he made rapid advances in theological knowledge. This period of study was a very stirring one, even in the ecclesiastical world of Scotland. Glasgow afforded a fair and wide field for the ministerial aspirations of young Pullar. His church became crowded to overflowing, and Sabbath school classes, Bible classes, City missionary operations, and Young Men's Christian Associations became then, as now, his peculiar care. Open air preaching had singular attractions for him, and his labours resulted in more than one case in large and flourishing congregations. Subsequently he came to the United States and Canada. He has been resident here for fifteen years, and has gone in and out blamelessly before his people. —*Hamilton Times*.

4. REV. A. N. MACNAB, B. A.

Under the designation of "In Memoriam" there has recently been published, principally we believe for private circulation, a brief sketch of the life and labours of the late Rev. Allan N. Macnab, B.A., accompanied with appropriate thoughts upon his sudden and untimely death. A copy of this interesting and affecting narrative has been placed in our hands. We have perused it with mingled feelings of sadness and pleasure. It is a worthy tribute to a most devoted and excellent young man; and while sympathising

deeply with the bereaved family in their all but irreparable loss, it is impossible not to derive some instruction and profit from this tender and touching memorial. The Rev. Mr. Macnab will be remembered by many of our readers as curate, first, at St. Thomas' and then at Christ Church in this city; and by all with whom he associated in the ordinary intercourse of life, or in the official discharge of his pastoral function, he was esteemed for his gentlemanly demeanor, for his unaffected piety, for his quiet and unobtrusive zeal. It is a pity that this memorial of his life has not been made accessible to his friends and public in general. Many, we are sure would be glad to possess it—while from its circulation and perusal the happiest effects might have been anticipated. The early life of Mr. Macnab was full of hope and promise. At the Bowmanville Grammar School he was distinguished for his thoughtful mind and studious habits. His career at Trinity College is spoken of as being "blameless and honourable." After a creditable examination, he was admitted to Deacon's Orders in June, 1871, and during the next year performed the duties of his high vocation with great acceptability and success in our own midst in Hamilton. The rest is known. It would be painful to reproduce the story of his death. An inscrutable Providence was that which so quickly cut him down. Beneath this mystery of life and death we must bow our heads in reverence and awe. With faith in God's eternal rectitude, our souls may feel and say: "It is the Lord, let Him do what seemeth Him good!" In the Memorial before us there are several appropriate extracts from sermons preached on the occasion of Mr. Macnab's death, by the Bishop of Toronto and the Rev. James Gamble Geddes, of Hamilton. These bear testimony to the excellence of his character, and suggest food for meditation and comfort. A few specimens are also given of Mr. Macnab's own composition, in the shape of letters, and sermons and reflections. They breathe a devout spirit, and are indicative of ability and culture. Had his life and health been spared, he would doubtless have proved an ornament to the church, and a "good minister of Jesus Christ." In a happier sphere he fulfils the will of heaven; and for aught our finite minds can tell, he may now be employed as a ministering spirit, to minister to his sorrowing friends below. As of the first martyred saint, so of him it may be said—"He being dead, yet speaketh." —*Hamilton Spectator*.

5. REV. JOHN R. LEE.

The reverend gentleman was the son of Mr. Patrick Lee, who so long conducted the St. Michael's Academy, to which many Catholics of this city owe their early and excellent training. He was born in 1831, in the township of Ops, Victoria Co., Ontario, and after the usual preliminary studies in Toronto, passed through his theological course in the Seminary of Quebec, and was ordained priest in St. Michael's Cathedral, Toronto, in the year 1856. During the seventeen years of his priesthood he officiated in several parishes in the diocese of Toronto and Hamilton. —*Freeman*.

6. MR. SAMUEL MUCKLESTON

Was born at Shropshire in the year 1808, emigrated to Canada when he was 22 years of age, and joined John Watkins, Esq., in the hardware business. Mr. Watkins retired in 1860, after which Mr. Muckleston carried on the business. He did a large and profitable business, and his name was well known among business men over the Dominion as A. 1. His probity and integrity were unimpeachable. He served as an officer in the First Frontenac during the rebellion, but he was eminently a man of peace and good will to all men. He always took a warm interest in church matters, and was churchwarden of the Cathedral for many years. He was also lay delegate and one of the auditors of the Synod for five or six years. —*Kingstyn Chron. and News*.

7. MR. THOMAS WILSON

Was one of our oldest and most respected citizens, and his death will be very generally regretted. He has been vestry clerk of St. George's Cathedral for several years, and held numerous other offices of trust, and his record for integrity was unimpeachable. —*Kingston Chron. and News*.

8. MR. JOHN SULLIVAN,

Of Wolfe Island, was probably the oldest resident of this county at the time of his demise. He was a native of the county Kerry, born in July 1769, having at the date of his decease arrived at the ripe age of 103 years and 9 months. While quite young he emigrated to Canada, and participated in the leading events which

agitated the country soon after his settlement in Ontario. He fought at Badajos, Salamanca and Waterloo. At the latter place he lost his two sons, who were fatally wounded at his side in the final charge. For 60 years, he was in receipt of a pension.—*K. Chron. and News.*

9. Mr. T. A. BLYTHE.

Mr Blythe, the subject of this present notice, was born in 1813, in the County of Essex, England, and came to Canada in 1834. Having a natural taste for engineering and surveying, he apprenticed himself to the late Mr. Hawkins, of Toronto, with whom he explored the then unexplored regions lying between the Georgian Bay and Lake Nipissing, under hardships and difficulties which, at the present day, can hardly be appreciated. He then removed to Hamilton. For over thirty-five years he was engaged in establishing boundaries, settling differences about disputed lines, and in no instance, as we are informed by those most capable of judging, have his surveys been successfully disputed.

VI. Miscellaneous.

1. THE NEWSBOY'S DEBT.

"Sir, if you please, my brother Jim—
The one you give the bill, you know—
He couldn't bring the money, Sir,
Because his back was hurted so.

"He didn't mean to keep the 'change ;'
He got runned over, up the street :
One wheel went right across his back,
And t'other fore-wheel mashed his feet.

"They stopped the horses just in time,
And then they took him up for dead,
And all that day and yesterday
He wasn't rightly in his head.

"They took him to the hospital—
One of the newsboys knew 'twas Jim—
And I went too, because you see,
We are two brothers, I and him.

"He had that money in his hand,
And never saw it any more.
Indeed, he didn't mean to steal !
He never lost a cent before !

"He was afraid that you might think
He meant to keep it, any way :
This morning, when they brought him to,
He cried because he couldn't pay.

"He made me fetch his jacket here ;
It's torn and dirtied pretty bad ;
It's only fit to sell for rags,
But then, you know, it's all he had !

"When he gets well—it won't be long—
If you will call the money lent,
He says he'll work his fingers off
But what he'll pay you every cent."

And then he cast a rueful glance
At the soiled jacket where it lay.

"No, no, my boy ! Take back the coat.
Your brother's badly hurt you say ?

"Where did they take him ? Just run out
And hail a cab, then wait for me.
Why, I would give a thousand coats,
And pounds for such a boy as he !"

A half hour after this we stood
Together in the crowded wards,
And the nurse checked the hasty steps
That fell too loudly on the boards.

I thought him smiling in his sleep,
And scarce believed her when she said,
Smoothing away the tangled hair
From brow and cheek, "The boy is dead."

Dead ? dead so soon ? How fair he looked !
One streak of sunshine on his hair.

Poor lad ! Well, it is warm in heaven :
No need of "change" and jackets there !

And something rising in my throat
Made it so hard for me to speak,
I turned away, and left a tear
Lying upon his sunburned cheek.

—Extract from a poem by H. R. Hudson, in *Harper's Magazine* for May.

2. NOTHING NEW UNDER THE SUN.

Humboldt, in his "Cosmos," states that the Chinese had magnetic carriages, with which to guide themselves across the great plains of Tartary, one thousand years before our era, on the principle of the compass. The prototype of the steam engine has been traced to the colipile of Hero of Alexandria. The Romans used moveable types to mark their pottery and indorse their books. Mr. Layard found in Nineveh a magnifying lens of rock-crystal, which Sir D. Brewster considers a true optical lens, and the origin of the microscope. The principle of the stereoscope, invented by Prof. Wheatstone, was known to Euclid, described by Galen fifteen hundred years ago, and more fully in 1599, A. D. in the works of Baptista Porta. The Thames Tunnel, though such a novelty, was anticipated by that under the Euphrates at Babylon ; and the ancient Egyptians had a Suez Canal. Such examples might be indefinitely multiplied, but we turn to photography. M. Jobard, in his "*Nouvelles Inventions aux Expositions Universelles*, 1857, says a translation from German was discovered in Russia, three hundred years old, which contains a clear explanation of photography. The old alchemists understood the properties of chloride of silver in relation to light, and its photographic action is explained by Fabricius in "*De Rebus Metallicis*," 1566. The daguerreotype process was anticipated by De La Roche in the "*Giphantie*," 1760, though it was only the statement of a dreamer.

3. CURIOUS FACTS ABOUT WORDS.

Marsh tells us that the number of English words not yet obsolete, but found in good authors, or in approved usage by correct speakers, including the nomenclature of science and the arts, does not probably fall short of one hundred thousand. A large portion of these words, however, do not enter into the living speech, the common language of daily and hourly thought. Some celebrated English and American orators have been able, upon occasions, to summon at their command one-half of this vast array of words, although they habitually content themselves with a much less imposing display of verbal force. Few writers or speakers use as many as ten thousand words ; ordinary persons of fair intelligence not above three or four thousand. If a scholar were to be required to name, without examination, the authors whose English vocabulary was the largest, he would probably specify the all-embracing Shakespeare and the all-knowing Milton ; and yet, in all the works of the great dramatist there occur not more than fifteen thousand words, in the poems of Milton not above eight thousand. The Old Testament uses but 5,642 words. The whole number of Egyptian hieroglyphic symbols does not exceed eight hundred, and the entire Italian operative vocabulary is said to be scarcely more extensive.

4. WHERE ENGLISH IS SPOKEN.

A recent calculation relative to the principal European languages shows that English is spoken by ninety millions of persons, inhabiting Great Britain and Ireland, North America, the Bermudas, Jamaica, Cape of Good Hope, Australia, Van Diemen's Land, Newfoundland, and the East Indies ; German by fifty-five millions, in their own country, Switzerland, Austria, Hungary, Russia, North and South America, La Plata, Australia and the East Indies ; Spanish by fifty-five millions in Spain, Cuba, Mexico, the republics of South America, Manila, &c. ; and French by forty-five millions in France, Belgium, Switzerland, Canada, Cayenne, and North America.

5. NATIONAL ALPHABETS.

The Sandwich Islands have twelve letters in their alphabet ; the Burmese, nineteen ; the Italian, twenty ; the Bengalese, twenty-one ; the Hebrew, Syriac, Chaldee, Samaritan, and Latin, twenty-two each ; the French, twenty-three ; the Greek, twenty-four ; the German and Dutch, twenty-six each ; the Spanish and Slavonic, twenty-seven each ; the Arabic, twenty-eight ; the Persian and Coptic, thirty-two ; the Georgian, thirty-five ; the Armenian, thirty-eight ; the Russian, forty-one ; the Muscovite, forty-three ; the Sanscrit and Japanese, fifty each ; the Ethiopic and Tartarian, two hundred and two each.

In the United States, Canada, and in Switzerland there is one newspaper to every six thousand inhabitants. In Denmark, one to every eight thousand. In Germany, Norway, and Holland, one to eighteen thousand. In France, one to every twenty thousand. In Sweden, one to every twenty-two thousand. In England, one to every twenty-four thousand. In Belgium, one to every twenty-six thousand. In other countries, such as Austria, and Italy, far fewer.

February for 12 years was—205. Wind storms, 26th. Fogs, 3rd, 15th, 18th. Snow, 1st, 4th, 8th, 10th, 21st, 24th, 26th, 27th. Rain, 3rd, 4th.

HAMILTON.—Wind storms, 4th, 6th, 20th, 24th. Fog, 18th. Snow, 1st, 3rd, 5th, 8th, 10th, 12th—14th, 21st, 22nd, 24th—27th. Rain, 11th.

SIMCOE.—Wind storms, 4th, 8th, 11th, 12th, 21st, 22nd. Snow, 10th, 11th, 21st. Rain, 3rd, but inappreciable. A gloomy, sickly month.

WINDSOR.—Hail, 26th. Wind storms, 19th—24th. Snow, 1st, 14th, 21st, 26th. Rain, 3rd.

VIII. Correspondence.

1. BEST METHOD OF TEACHING GEOGRAPHY AND ARITHMETIC.

To the Editor of the Journal of Education :

SIR :—The monthly meeting of the South Hastings Teachers Association held in Belleville on the 24th ultimo, was owing to the presence of Dr. Sangster, late Head Master of the Normal School, Toronto, the most interesting and instructive of any yet held by the Association. The President, Mr. Inspector Johnston, introduced Dr. Sangster, mentioned his long connection with the Normal and Model Schools of Ontario ; the numerous and valuable Educational works of which he was the author, &c. After a few introductory remarks, the Doctor said that perhaps no subject was so mistaught as geography, because pupils were taught words and not things, and therein lay one of the most common errors of teachers. One fault was in allowing them to learn by rote from text books, and another was that they were introduced to maps before they understood map notation, and then when the map is introduced it is taught and nothing else. Don't begin to teach a map until the pupils are prepared for it. They should be thoroughly prepared by a proper course of training, such as examining the physical features of the country near the school. Cultivate the observation of the pupils, have them notice the difference in the length of the day and night at different times of the year, and the different seasons, where the sun rises and where it sets ; teach them the cardinal points. They should not be taught from the maps before eight or nine years of age. Teachers should always try to lead them from the known to the unknown. Thus you have the idea of a brook in the child's mind, lead them to think of larger streams ; you have given him the idea of a plain, teach him to think of boundless plains covered with tall grass, and you have placed in his mind the idea of prairies, and the pond multiplied by thousands becomes a lake. After thoroughly drilling in this manner, proceed to teach them the definitions in as practical a form as possible. The most successful class he ever taught was one that he allowed to form the continents, islands, &c., in a field, adjoining the old Model School, which was temporarily flooded with water. A very good plan was to have a quantity of sand and having spread it smoothly over a portion of the shed floor to the depth of half an inch, let them trace out the form of the continents, &c., removing the sand to represent bodies of water, piling it up to indicate mountains—topping the higher of these with salt or flour to represent snow, and neatly labelling each locality with its proper name. Such map drawing as this, even if roughly done is infinitely more valuable ; as a means of teaching, than that projected on paper with scale and compass and pencil. The sympathy of numbers and the charm of seeing the physical features of a continent grow under their moulding hands give to the exercise an impressiveness it could not otherwise possess. Take a black-board, lay it on the floor, and with the class around you draw a plan of the school-room, have the children locate the different things in it, such as where the teacher's desk is, and the stove ; then place it on the wall or set it up with the north side uppermost, the bottom south, &c. In another place draw on the same size a plan of the school yard, also a plan of the school section, and the township, and thus they get the idea of the scale of miles fixed on their minds. Then teach them map notation, they are then ready for the maps. The best plan is to begin with our own county first and then those next to us. It will take probably two years before they are ready for the maps. While learning map notation and the definitions, &c., a series of familiar lessons may be given on the principal countries, cities, &c., without reference to maps or any attempt at exact location. Thus Arabia, Brazil, Egypt, India, London, Paris, New York, the Nile, the Arctic regions, &c., may be pictured out in words aided if possible by pictorial illustrations, so that when the child subsequently meets with these and other names they are to him something more than mere words. After having gone over the map of North America, take the map of the world, and then the other continents, after which return to the map of our own country, and after having taught it very minutely, take up the map of the United States, as that after our own, is the most important to us. One great difficulty that the teacher meets with, is to make the pupils understand various lines drawn upon the map and their uses. The best plan is to take a black globe,

and placing a chalk mark on it, ask the pupils to describe its position. They at once perceive that they can only say it is on the globe. If our two opposite points be taken for the poles, they can say it is nearer one or the other when the globe is spun round on its poles, and the equator described they can say it is north or south of the equator. The first and other meridians and the parallels of latitude are then drawn and the pupils having been led to see their necessity in order to localize places, clearly understand their importance and uses. Teach them that these lines are only imaginary, and are not upon the earth. Teach Physical before Political Geography ; the teacher should thoroughly understand the map before he commences to teach it, so as to be able to point without more than merely glancing at it. He should endeavour to have his eyes fixed upon the class so that they can do nothing unless he is conscious of it. Be very careful to drill them carefully and thoroughly upon what they have been over, repeat and review constantly. Take imaginary trips through the country, or to distant parts of the world, and have the pupil name the places he would have to pass on his journey. Take occasionally the commercial column of a seaport newspaper, and drill upon that ; have them tell what the vessels would bring from another country, and what they carry in return. Thus the teacher who is really alive to his work, may make Geography the romance of the school room.

In the afternoon the first subject taken up was Arithmetic.

Dr. Sangster said that Arithmetic was one of the most important subjects we have to teach, and is very frequently mistaught. Teachers are frequently very short-sighted in this matter, as their reputation as a good or bad teacher follows them, and from self-preservation, if nothing else, they should try to teach Arithmetic well. They should ask the Inspector to visit and examine their pupils and classify them, when they enter a new school. Very many schools are superficially taught, and only to show well at an examination. He said he frequently found those who said that they have been through the arithmetic two or three times, but who could not write down numbers with any degree of accuracy. He thought scholars should never go through the arithmetic but once, being thoroughly drilled on what they had gone over. If he had a class to teach five hours he would give three to review, and two actual progress. Teachers should try and remember their own difficulties when they were learning these same rules and perhaps they would have more patience with the little ones. Teach the advanced classes to work for themselves. For small children arithmetic should be divested of all technicalities, and never ask too much theory from them, as children frequently understand things which they cannot explain. The first thing is to teach them to count ; for this purpose the teacher should be provided with a numeral frame ; have them count pebbles or the panes of glass in the windows, next write down the numbers on the blackboard as far as one hundred, then have them read and afterwards copy them down. He believed that if all our text books were in one great pile, and a holocaust made of them, it would be a good thing for the young of our country. By aid of the numeral frame teach them to add by twos, so that they can count as far as one hundred in this manner. They should be thoroughly drilled in these things as they proceed. Repetition without cessation should be the teacher's motto. Never allow them to resort to counting on their fingers or the notches in their slate frames, or by marks. After learning to count by twos, then take 3, 4, 5, &c., as high as nine. As they proceed, give them questions on the blackboard to be added up without spelling them over. In teaching subtraction teach them to count backward from 100, by ones, twos, threes, &c. He then proceeded to give very simple methods of explaining to the pupils the process of carrying in addition, and borrowing in subtraction. As soon as they can add and subtract, give practical questions involving both rules ; one great fault with teachers is that they do not give enough practical questions. If they have been drilled well upon the addition table they will have no difficulty in learning the multiplication table. Be very sure they are well posted in all the arithmetical tables. Many teachers find great difficulties in teaching long division ; best way is to teach them to do the same sum by both long and short divisions, showing the child that in long division we put down what we do mentally in short division. In teaching tables of weights and measures each school should be furnished with a set of weights, balances and measures. For long measure have the child count the number of inches in a foot ; measure a yard for the child, also a perch and furlong ; for avoirdupois, let him see that 1 oz. will balance 16 drams, and 1 lb. 16 oz. ; for square measure use cardboard and mark off a square foot, then divide it into square inches and let them count them, they thus learn the numbers of square inches in a square foot, also mark a square yard and square perch, show them where the one quarter of a yard comes from in the 30½ square yards that go to make up the perch. For dry measure, use sand, and let them fill a pint measure and pour it in a

quart measure, by this method the child becomes practically acquainted with the different weights and measures in use, which is the only true method of teaching them. Insist upon all the work being done neatly, as frequently mistakes are made by the careless manner in which the work is put down. Fractions come next, and he would recommend that the teacher take an apple or something that can be easily divided into parts and by cutting in two equal parts show them that two halves equal a whole, and then by dividing again that four quarters make two halves or one whole, in this manner they can with very little trouble be made to understand that these parts may be added, subtracted, multiplied and divided. Of course they should be thoroughly drilled in the Mental Arithmetic in all the rules as they proceed. In answer to Mr. Irwin, he said he would have as few arithmetic classes as possible, and that he would rather have three than five in a school. Prof. Macoun asked which classes should the best teacher teach, the smaller or more advanced classes. The doctor, in reply, said he would say the smallest classes by all means.

The most important branch of all is reading, he doubted the propriety of introducing new studies, and he would rather have seen the numbers lessened than made greater. The child who knows how to read intelligently can acquire the other studies of himself. Very few understand how to teach reading intelligently to beginners. Intelligence in reading is the great desideration. There are five different methods of teaching reading, the Alphabetic, Phonic, Phonetic, Look and Say, and Rational methods. The alphabetic method was in vogue in the time of our grandmothers. This system is wrong, because the names of the letters of a word do not give you the sound of that word. Children learn words as a whole, and not in parts. The Phonic system is an improvement on the old method, and is employed in Germany, where all the letters are sounded. The Look and Say method teaches, first, the alphabet, then words, and lastly spelling. It, however, makes the mistake of not giving any method of finding out new words. The Rational method takes the tablets, or better still, prints the words on the black-boards, as the children take greater interest in the words if they seem to grow from the living teacher's fingers. Call the attention of the child to the form of the words, have them print them on their slates; have them point out the letters that go to make up a word; write out new sentences containing the words they have already learned. Every teacher should be prepared, and no teacher is worthy the name who does not prepare his lessons beforehand. The true value of this kind of teaching is the words printed on the blackboard. Learning to read at this stage is not learning new words, but getting those already gone over perfectly. Object lessons should be taught at the same time, as they increase the child's vocabulary. When we come to the 11th lesson we have a review. In the 12th some new words are introduced, and these are placed at the top of the lesson. They have by this time learned all the letters. Before commencing new lesson, talk to them about it, and drill them so that they know all the new words before they read it. Mr. Inspector Johnston said Dr. Sangster was the author of the 1st, 2nd and 3rd Books.

Prof. Macoun said he had much pleasure in moving a vote of thanks to Dr. Sangster, and he would also state that he looked on the Doctor as his father as regards school teaching, as the valuable information he had received while under his instruction had contributed largely towards his success in teaching. He had been greatly benefited to-day, and he believed that the teachers would go away better prepared to perform their arduous duties, and that the whole country would feel the benefit of the Doctor's visit. Mr. Pashley seconded the motion, which was carried unanimously.

Dr. Sangster, Prof. Carman of Albert College, and Mr. Hicks, Trenton High School, were elected honorary members.

This closed the most interesting meeting ever held by this association.

In the evening Dr. Sangster lectured before a large audience in the Ontario Hall, on "Education." Mr. Johnston introduced the lecturer amid great applause.

At the close Mr. Ashley moved, seconded by Mr. Ostrom, a vote of thanks to the eloquent lecturer, which was unanimously carried, and very appropriately responded to by Dr. Sangster.

The next day Dr. Sangster, Mr. Inspector Johnston, Profs. Dawson and Macoun, and several teachers visited the Deaf and Dumb Institute, upon the invitation of Dr. Palmer, Principal of the Institute. After having been shown through the building, they proceeded to the lecture room, when Dr. Sangster, by request, spoke for an hour to the teachers of the Institute and to the advanced classes, on the best methods of teaching Arithmetic. At the close of the lecture they proceeded to the dining-room, when all sat down to a lunch prepared by Dr. Palmer.

In the afternoon they visited Albert College, and were kindly received by Principal Carman and Prof. Dawson. The Doctor's visit

to Belleville will be of immense benefit to the teachers of South Hastings, and the adjoining counties, as all who attended went away with new ideas of their duties and new methods of teaching. A great deal of credit is due Mr. Inspector Johnston for the very successful and eminently practical state of this Association, and for having secured the valuable services of Dr. Sangster to lecture before it.

S. A. GARDNER,
Cor. Sec.

Belleville, April, 8173.

THE ONTARIO TEACHER.

THE ONTARIO TEACHER is the title of a new monthly educational journal, published by Messrs. Ross & McColl, Strathroy, Ont., at \$1.25 per annum in advance. The mechanical execution is very good and the literary character of the matter is of a high order. A large list of prominent contributors of experience and learning is also given. The objects of the *Ontario Teacher* are among other things stated to be the advocacy of "the following measures of a legislative character:"—

"1. The introduction of the representative element into the Council of Public Instruction.

"2. The establishment of Township Boards of Trustees.

"3. The payment of Teachers' salaries quarterly.

"4. The erection of a Teachers' residence in every School Section.

"5. The appropriation by the Government toward the Superannuated Teachers' Fund of a sum equal to the contributions of the Teachers.

"6. The revision of our School Readers and the addition to each of a copious glossary containing the meaning and pronounciation of all difficult words."

It has not been the practice of the *Journal of Education* to discuss personal or theoretical questions as to school law, further than to expound and justify the law and its administration, when necessary. The law, among other things, makes it the duty of the Chief Superintendent "to collect and diffuse among the people of Upper Canada useful information on the subject of education generally," and "make annually to the Governor such statements and suggestions for improving the common schools and the common school laws, and promoting education generally as he may deem useful and expedient."

In accordance with both the letter and spirit of the law, the Chief Superintendent has submitted first to the Government the results at which he has arrived and the suggestions he has had to offer for improvement of the school law; and even when he has made official visits to the several counties and held county meetings on the subjects of school law, he has had the sanction of the Government to do so.

It is now a question of no small practical importance whether the duty of County Public School Inspectors is not analogous to that of the Chief Superintendent in regard to such matters? Whether as public school officers, they should not, like judges and sheriffs administer the law, and submit to Government, (through the Chief Superintendent of Education) for its consideration and action whatever defects or difficulties they may experience in its application or execution. It would seem odd and rather out of place for sheriffs, or county or superior judges to issue publications or become public agitators or disputants, for the amendment of laws which they are appointed solely to expound and administer; and it is less out of place for Public School Inspectors—the county administrators of the school law—to pursue merely a course of public discussion and agitation on questions of school legislation, instead of submitting each to his council what such council could remedy or to the Government, through the Chief Superintendent what might require governmental action or legislation. But if each County School Inspector becomes a school law politician, instead of concentrating himself upon his appropriate functions of school law administration and school visitor, the influence of the office and its incumbent will be greatly diminished, as will the efficiency of the law in many instances, and the school system in the end will be but a rope of sand. As long as there are many minds there will be many opinions. Public School Inspectors are not likely to be a unit on any question beyond that of salary, any more than others. If they stand together in the unity of school law administration and efficiency, they will be strong and influential and therefore useful; but if they being a law who themselves, regard one function of their office as that of publicly intermeddling with all questions of school polity and legislation, they will make their office little respected and valued, and soon little supported.

If instead of seeking to disparage school books or public bodies by attacks and criticisms, they confine themselves to the duties of their office and submit the results of their observations and experience

as suggestions to those who have to do with such matters, they will find their opinions more likely to be well considered and acted upon, and the interests of the school system much more advanced, then if they assume the offices of judges and assailants of others in the same work. There are writers enough to discuss all parts of a school system, as well as of other systems, besides the administrators of it joining in to pick it to pieces in order to try and put it better together again; and there is ample range of topics of school ethics and practice and literature and intelligence for pages of any educational periodical, without trespassing upon the debatable ground of school politics.

During the recent conference of Inspectors in Toronto, nothing was intimated of the new antagonistic agent* about to be employed against the Council of Public Instruction, on the unfair and unjust assumption that it has "little or no professional sympathy" with "those over whom" its members "exercise jurisdiction,"—against the Department and no doubt its "error of administration," and against the *Journal of Education*, as not being "thoroughly practical" in its character. It is true that in regard to the latter the *Teacher* states that:—

"It is not our desire to criticise just now the *Journal of Education* published in Toronto, under the auspices of the Department of Public Instruction, but we feel, even if its publication is continued, that another Journal more practical in its nature, with its columns more freely open to the profession," etc.

It is just possible that the doubt or the expectation of the non-continuance of this *Journal*, as intimated above, may have had some influence in the establishment of the *Teacher*. Be that as it may, however (although the *Teacher* may prove a valuable auxiliary to the cause), yet we deny the existence of the two grounds upon which the promoters of the new publication advocate its establishment—that the *Teacher* is "more practical" in its character, or that its columns are "more freely" open to the profession, than those of the *Journal of Education*. In regard to the former the articles published in the *Journal* speak for themselves. In regard to the latter we have always welcomed any contributions of a "practical" character from any member of the profession, and have a standing notice to the following effect, inserted from time to time in the *Journal*:

"INTER-COMMUNICATIONS IN THE 'JOURNAL.'"

"As already intimated, a department is always reserved in the *Journal of Education* for letters and inter-communications between Inspectors, School Trustees and Teachers, on any subject of general interest relating to education in the Province. As no personal or party discussions have, ever since the establishment of the *Journal*, appeared in its columns, no letter or communication partaking of either character can be admitted to its pages; but, within this salutary restriction, the utmost freedom is allowed. Long letters are not desirable; but terse and pointed communications of moderate length on school management, discipline, progress, teaching, or other subjects of general interest are always acceptable, and may be made highly useful in promoting the great objects for which this *Journal* was established."

NO POLITICS IN SCHOOL AFFAIRS.

The Hon. J. P. Wickersham, State Superintendent of Public Schools, Pennsylvania, in his last report utters the following truthful sentiments:—

"The re-construction of the Department as proposed would be incomplete, unless provision be made to remove all connected with it away as far as possible from political influences. Theoretically, it will be acknowledged by thinking men of all parties, that there ought to be no politics in school affairs. Citizens of all parties pay the taxes, the children of all parties are found in the schools, and it is, therefore, clear that damage must be done to the system by placing those in the control of it who are unable in the administration of their offices to rise above partisan influences or prejudices."

IX. Departmental Notices.

EXAMINATION OF PUBLIC SCHOOL TEACHERS.

In accordance with the General Regulations adopted by the Council of Public Instruction, an Examination of Candidates for Public School Teachers' Second and Third Class Certificates, will be held (D.V.), in each County Town of Ontario, commencing on TUESDAY, 15th JULY, at 9 a.m.

* The "Teacher" for April gives currency to several misstatements in regard to the Department, which recently appeared in a local paper, and the editor professes to wish for a more "complete vindication" than that already given to the public in a letter from the Chief Superintendent.

But Candidates who intend to take the optional subjects in the Curriculum for Second Class, *e. i.* Natural History, Botany, and Agricultural Chemistry, must present themselves at Two o'clock, on MONDAY, 14th JULY.

The Examinations of Candidates for FIRST-CLASS CERTIFICATES will be held at the same place, commencing on MONDAY, 21st JULY, at 2 p.m.

As intimated in the *Journal of Education*, a Gold Medal (granted by Wm. McCabe, Esq., LL.B.) will be awarded to the most successful Candidate for a First Class Certificate of the highest grade (A).

Forms of the notice to be previously given by the Candidates, can be obtained on application to any Inspector.

It is indispensable that Candidates should notify the presiding County or City Inspector (as the case may be) not later than the 24th of June, of their intention to present themselves for examination.

The presiding Inspector will inform the Department not later than the 1st July, of the number of Candidates in each class, as the Examination Papers cannot be printed until this information shall have been received from every one of the presiding Inspectors. An omission of any one of these Inspectors in this matter, beyond the time specified may delay the printing and despatch to the Inspectors, of the Examination Papers.

The Examination Papers will be sent to the presiding Public School Inspector (who will be responsible for the conduct of the examinations according to the regulations). The presiding Inspector will, immediately after the meeting of the Board of Examiners, at the close of the examinations, and not later than the 3rd of August, transmit to the Department the report of the Board of Examiners, and also the whole of the answers of the candidates. The surplus Examination Papers are also to be returned for binding.

The presiding Inspector will please give sufficient public notice respecting the Examinations, and obtain from his co-Inspector (if any) the names of Candidates who may happen to send their applications to him.

FIRST BOOK OF EUCLID FOR FEMALE TEACHERS.

Notice is hereby given that the Council of Public Instruction, at a meeting held on the 10th instant, directed that the First Book of Euclid be a subject of examination for female candidates for second and first class certificates, the subject of Domestic Economy being omitted.

This regulation will take effect at the July Examinations, 1873.

Candidates for third class certificates will be required in arithmetic, to solve ordinary questions in simple interest.

ASSISTANT TEACHERS' CERTIFICATES.

The question is sometimes asked if it be necessary that an assistant teacher should hold a legal certificate. We reply: It is absolutely necessary that he should hold one. The law expressly declares that every person receiving any part of the School Fund as teacher shall hold a legal certificate of qualification. The Superior Courts have also decided that trustees cannot legally levy a rate for the payment of a teacher who does not possess the necessary qualifications as such under the School laws. (See page 52 of this Number.)

USE OF AUTHORIZED TEXT BOOKS PRESCRIBED.

The list of the authorized Text Books for High and Public Schools, so far as completed by the Council of Public Instruction, is published on a separate sheet. Inspectors, Trustees and Teachers will please see that these books are used in the schools.

June 20

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No. 5.

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APPORTIONMENT OF THE LEGISLATIVE SCHOOL GRANT TO PUBLIC SCHOOLS IN ONTARIO, FOR 1873.

Circular to the Clerk of each County, City, Town and Village Municipality in the Province of Ontario.

SIR,—I have the honour to transmit herewith a certified copy of the apportionment for the current year, of the Legislative School Grant to each City, Town, Village, and Township in Ontario.

The basis of apportionment to the several Municipalities for this year is the population as enumerated in the census of 1871. The total amount available for apportionment is \$20,000 more than last year, and in addition to the increased amount available on the basis of population, those Townships in which there



WADSWORTH STREET SCHOOL, HARTFORD, CONNECTICUT.

are feeble schools and a sparse population have been specially considered in the apportionment by means of the poor School Grant.

Where Roman Catholic Separate Schools exist, the sum apportioned to the Municipality has been divided between the Public and Separate Schools therein, according to the average attendance of pupils of both classes of Schools during last year as reported and certified by the Trustees.

The grants will be paid by the Hon. the Provincial Treasurer on the certificate of the Chief Superintendent. These certi-

ates will be issued on or about 30th June, in favour of those Municipalities which have sent in duly audited school accounts and Inspectors' reports to this office.

I trust that the liberality of your Council will be increased in proportion to the growing necessity and importance of providing for the sound and thorough education of all the youth of the land.

I am, Sir, your obedient servant,

E. RYERSON.

EDUCATION OFFICE,

Toronto, June, 1873.

Apportionment to Counties for 1873.

1. COUNTY OF GLENGARRY.		
Townships.	Apportionment.	
Charlottenburgh	\$817 00	
Do for Separate Schools...	\$40 00	
Kenyon	671 00	
Lancaster	570 00	
Do for Separate Schools...	\$28 00	
Lochiel	564 00	
Do for Separate Schools.....	\$90 00	
	\$158 00	\$2622 00
Total for County, \$2780 00.		

2. COUNTY OF STORMONT.		
Cornwall	\$688 00	
Finch	370 00	
Onabruok	785 00	
Roxborough	454 00	
	\$2297 00	

3. COUNTY OF DUNDAS.		
Matilda	\$646 00	
Mountain	442 00	
Williamsburgh	640 00	
Winchester	554 00	
	\$2282 00	

4. COUNTY OF PRESCOTT.		
Alfred	\$230 00	
Caledonia	173 00	
Hawkesbury, East	443 00	
Do for Separate Schools...	\$181 00	
Do West	269 00	
Longueuil	\$21 00	228 00
Plantagenet, North	370 00	
Do for Separate Schools...	\$36 00	
Do South	213 00	
	\$238 00	\$1926 00
Total for County, \$2164 00.		

5. COUNTY OF RUSSELL.		
Cambridge	\$104 00	
Clarence	361 00	
Cumberland	396 00	
Russell	317 00	
	\$1178 00	

6. COUNTY OF CARLETON.		
Fitzroy	\$465 00	
Gloucester	623 00	
Do for Separate Schools	\$25 00	
Goulbourn	438 00	
Gower, North	343 00	
Huntley	365 00	
March	253 00	
Marlborough	304 00	
Do for Separate Schools...	\$16 00	

6. COUNTY OF CARLETON.—Continued.		
Townships.	Apportionment.	
Nepean	600 00	
Do for Separate Schools	\$87 00	
Osgoode	508 00	
Do for Separate Schools	\$114 00	
Torbolton	130 00	
	\$240 00	\$4031 00
Total for County, \$4271.		

7. COUNTY OF GRENVILLE.		
Augusta	\$700 00	
Edwardsburgh	713 00	
Do for Separate School...	\$21 00	
Gower, South	138 00	
Oxford on Rideau	536 00	
Do for Separate Schools...	\$13 00	
Wolford	345 00	
	\$34 00	\$2432 00
Total for County, \$2466 00.		

8. COUNTY OF LEEDS.		
Bastard and Burgess, South	\$480 00	
Crosby, North	288 00	
Do South	278 00	
Elizabethtown	728 00	
Elmsley, South	168 00	
Escott, Front	188 00	
Kitley	379 00	
Do for Separate Schools	\$10 00	
Leeds and Lansdowne, Front	510 00	
Do do Rear	320 00	
Yonge, Front	226 00	
Do and Escott, Rear	233 00	
Do for Separate Schools	\$10 00	
	\$20 00	\$3798 00
Total for County, \$3818 00.		

9. COUNTY OF LANARK.		
Bathurst	\$437 00	
Beckwith	280 00	
Burgess, North	202 00	
Dalhousie	249 00	
Darling	109 00	
Drummond	335 00	
Elmsley, North	191 00	
Lanark	308 00	
Lavant	70 00	
Montague	430 00	
Pakenham	329 00	
Ramsay	436 00	
Sherbrooke, North	60 00	
Do South	135 00	
	\$3571 00	

10. COUNTY OF RENFREW.		
Admaston	\$272 00	
Algona	110 00	
Alice and Fraser	228 00	
Do Separate Schools	\$17 00	
Bagot and Blithfield	165 00	
Brougham	91 00	

10. COUNTY OF RENFREW.—Continued.		
Townships.	Apportionment.	
Bromley	161 00	
Do for Separate Schools	\$53 00	
Brudenell, Raglan, Radcliffe and Igne- doch	298 00	
Grattan	180 00	
Do for Separate Schools	\$46 00	
Griffith	103 00	
Horton	185 00	
McNab	396 00	
Matawathan	102 00	
Pembroke	96 00	
Petewawa	116 00	
Rolph and Wylie, Buchanan and Mc- Kay	162 00	
Ross	237 00	
Sebastopol	130 00	
Stafford	128 00	
Westmeath	362 00	
Wilberforce	284 00	
	\$116 00	\$3806 00
Total for County, \$3922.		

11. COUNTY OF FRONTENAC.		
Barrie	\$105 00	
Bedford	241 00	
Do for Separate Schools	\$20 00	
Clarendon and Miller	135 00	
Hinchinbrooke	176 00	
Kennebec	139 00	
Kingston	532 00	
Do for Separate School	\$32 00	
Loughboro'	350 00	
Olden	153 00	
Oso	149 00	
Palmerston and Canoto	124 00	
Pittsburgh	579 00	
Portland	408 00	
Storrington	440 00	
Wolfe Island	333 00	
Do for Separate Schools	\$87 00	
	\$139 00	\$3864 00
Total for County, \$4003 00.		

12. COUNTY OF ADDINGTON.		
Amherst Island	\$175 00	
Anglesea and Kaladar	182 00	
Camden, East	768	
Do for Separate School	\$23 00	
Denbigh, Abinger, Ashby and Effing- ham	144	
Ernestown	573	
Sheffield	326	
Do for Separate School	\$63 00	
	\$86 00	\$2168 00
Total for County, \$2254.		

13. COUNTY OF LENNOX.		
Adolphustown	\$102 00	
Fredericksburgh, North	233 00	
Do South	203 00	
Richmond	465 00	
	\$1003 00	

14. COUNTY OF PRINCE EDWARD.

Townships.	Apportionment.
Ameliasburgh	\$448 00
Athol	236 00
Hallowell	482 00
Hillier	301 00
Marysburgh, South	243 00
Do North	289 00
Sophiasburgh	366 00
	\$2365 00

15. COUNTY OF HASTINGS.

Carlow and Mayo	\$92 00
Elzevir and Grimsthorpe	229 00
Faraday and Dungannon	121 00
Hungerford	627 00
Huntingdon	397 00
McClure, Wicklow, Bangor, Herschel and Monteagle	274 00
Madoc	470 00
Marmora and Lake	241 00
Rawdon	499 00
Sidney	713 00
Thurlow	702 00
Tudor, Wallaston, Limerick and Cashel	293 00
Tyendinaga	909 00
	\$5567 00

16. COUNTY OF NORTHUMBERLAND.

Alnwick	\$185 00
Brighton	484 00
Do for Separate Schools	21 00
Cramahe	519 00
Haldimand	766 00
Do for Separate School	\$19 00
Hamilton	775 00
Monaghan, South	155 00
Murray	492 00
Percy	510 00
Do for Separate School	\$44 00
Seymour	570 00
Do for Separate School	\$14 00
	\$98 00 \$4456 00
Total for County, \$4554.	

17. COUNTY OF DURHAM.

Cartwright	\$341 00
Cavan	646 00
Clarke	776 00
Darlington	803 00
Hope	687 00
Manvers	558 00
	\$3811 00

18. COUNTY OF PETERBOROUGH.

Asphodel	\$370 00
Do for Separate Schools	\$70 00
Belmont and Methuen	440 00
Burleigh, Anstruther, Monmouth, Car- diff and Chandos	255 00
Douro	272 00
Dummer	274 00
Dysart, Dudley, Harcourt, Guilford, Harburn and Burton	249 00
Kanismore	165 00
Galway and Cavendish	171 00
Harvey	108 00
Minden	178 00
Monaghan, North	226 00
Otonabee	524 00
Do for Separate Schools	\$16 00
Smith	484 00
Snowdon and Glamorgan	185 00
Stanhope and Sherborne	151 00
	\$86 00 \$4032 00
Total for County, \$4118.	

19. COUNTY OF VICTORIA.

Anson, Hindon and Lutterworth	\$201 00
Bexley	127 00
Carden and Dalton	220 00
Draper, Ryde and Oakley	210 00
Eldon	420 00
Emily	530 00
Fenelon	550 00
Laxton, Digby and Longford	188 00
Macaulay	202 00

19. COUNTY OF VICTORIA—Continued.

Townships.	Apportionment.
Mariposa	730 00
Ops	494 00
Somerville	170 00
Stephenson	150 00
Verulam	374 00
	\$4566 00

20. COUNTY OF ONTARIO.

Brook	\$701 00
Mara and Rama	488 00
Pickering	999 00
Reach	690 00
Scott	376 00
Scugog Island	119 00
Thorah	268 00
Uxbridge	470 00
Whitby, East	462 00
Do West	436 00
	\$5009 00

21. COUNTY OF YORK.

Etobicoke	\$388 00
Do for Separate School	\$16 00
Georgina	269 00
Gwillimbury East	533 00
Do North	313 00
King	1013 00
Markham	1054 00
Scarborough	625 00
Vaughan	984 00
Whitchurch	679 00
York	1154 00
Do for Separate Schools	\$202 00
	\$218 00 \$7012 00
Total for County, \$7230 00.	

22. COUNTY OF PEEL.

Albion	\$658 00
Caledon	649 00
Chingawacousy	831 00
Gore of Toronto	194 00
Do for Separate School	\$18 00
Toronto	806 00
	\$18 00 \$3138 00
Total for County, \$3156 00.	

23. COUNTY OF SIMCOE.

Adjala	\$391 00
Essa	571 00
Flos	238 00
Gwillimbury, West	411 00
Innisfil	711 00
Do for Separate School	\$30 00
Medonte	345 00
Mono	539 00
Monck	173 00
Morrison	182 00
Muskoka	166 00
Mulmur	474 00
Nottawasaga	908 00
Orillia and Matchedash	219 00
Do for Separate School	\$38 00
Oro	591 00
Sunnidale	270 00
Tay	221 00
Tiny	435 00
Tecumseth	640 00
Toscoronto	213 00
Vespra	269 00
Do for Separate Schools	\$13 00
	\$81 00 \$7967 00
Total for County, \$8048 00.	

24. COUNTY OF HALTON.

Eaquesing	\$331 00
Nassagaweya	403 00
Nelson	625 00
Trafalgar	681 00
	\$2540 00

25. COUNTY OF WENTWORTH.

Ancaster	\$678 00
Barton	389 00
Beverley	786 00
Binbrooke	263 00

25. COUNTY OF WENTWORTH.—Con.

Townships.	Apportionment.
Flamborough, East	507 00
Do for Separate Schools	\$20 00
Do West	427 00
Do for Separate Schools	\$35 00
Glanford	277 00
Saltfleet	377 00
	\$55 00 \$3704 00
Total for County, \$3759 00.	

26. COUNTY OF BRANT.

Brantford	\$930 00
Burford	751 00
Dumfries, South	469 00
Oakland	152 00
Onondaga	260 00
	\$2002 00

27. COUNTY OF LINCOLN.

Caistor	\$294 00
Clinton	376 00
Gainsborough	408 00
Grantham	477 00
Do for Separate Schools	\$55 00
Grimsby	423 00
Louth	257 00
Niagara	284 00
	\$55 00 \$2519 00
Total for County, \$2574 00.	

28. COUNTY OF WELLAND.

Bertie	\$397 00
Crowland	180 00
Humberstone	334 00
Pelham	340 00
Stamford	377 00
Do for Separate School	\$29 00
Thorold	338 00
Wainfleet	364 00
Willoughby	169 00
	\$29 00 \$2499 00
Total for County, \$2528 00.	

29. COUNTY OF HALDIMAND.

Canborough	\$164 00
Cayuga, North	271 00
Do South	133 00
Dunn	144 00
Moulton and Sherbrooke	284 00
Oneida	408 00
Do for Separate School	\$23 00
Rainham	280 00
Seneca	443 00
Walpole	728 00
Do for Separate School	\$14 00
	\$37 00 \$2855 00
Total for County, \$2892 00.	

30. COUNTY OF NORFOLK.

Charlottesville	\$557 00
Houghton	289 00
Middleton	442 00
Townsend	741 00
Walsingham	712 00
Windham	601 00
Do for Separate Schools	\$50 00
Woodhouse	524 00
	\$50 00 \$3866 00
Total for County, \$3916 00.	

31. COUNTY OF OXFORD.

Blandford	\$274 00
Blenheim	866 00
Dereham	574 00
Nissouri, East	497 00
Norwich, North	450 00
Do South	436 00
Oxford, North	253 00
Do East	355 00
Do West	379 00
Zorra, East	625 00
Do West	460 00
	\$5169 00

32. COUNTY OF WATERLOO.		
Townships.	Apportionment.	
Dumfries, North	\$536 00	
Waterloo	1062 00	
Wellesley	683 00	
Do for Separate Schools	\$91 00	
Wilmot	724 00	
Do for Separate Schools	\$63 00	
Woolwich	754 00	
	\$154 00	\$3759 00
Total for County, \$3913 00.		

33. COUNTY OF WELLINGTON.		
Amaranth	\$265 00	
Arthur	384 00	
Do for Separate Schools	\$104 00	
Erin	510 00	
Garafrax, East	721 00	
Do West	351 00	
Guelph	423 00	
Luther	400 00	
Maryborough	241 00	
Minto	598 00	
Nichol	658 00	
Do for Separate School	\$29 00	
Peel	341 00	
Do for Separate School	\$81 00	
Pilkington	697 00	
Do for Separate School	\$45 00	
Puslinch	267 00	
	\$259 00	\$6467 00
Total for County, \$6726 00.		

34. COUNTY OF GREY.		
Artemesia	\$463 00	
Do for Separate School	\$9 00	
Bentnick	602 00	
Collingwood	484 00	
Derby	283 00	
Egremont	535 00	
Euphrasia	392 00	
Glenelg	538 00	
Do for Separate School	\$32 00	
Holland	415 00	
Do for Separate School	\$25 00	
Keppel and Brooke	330 00	
Melancthon	306 00	
Normanby	720 00	
Do for Separate Schools	\$33 00	
Osprey	415 00	
Proton	253 00	
Do for Separate School	\$42 00	
Sarawak	151 00	
St. Vincent	673 00	
Sullivan	413 00	
Do for Separate School	\$13 00	
Sydenham	511 00	
Do for Separate School	\$32 00	
	\$186 00	\$7484 00
Total for County, \$7,670.		

35. COUNTY OF PERTH.		
Blanchard	\$529 00	
Downie	466 00	
Do for Separate School	\$40 00	
Easthope, North	406 00	
Do South	309 00	
Ellice	379 00	
Do for Separate School	\$13 00	
Elma	490 00	
Fullarton	394 00	

35. COUNTY OF PERTH.—Continued.		
Townships.	Apportionment.	
Hibbert	463 00	
Logan	433 00	
Mornington	488 00	
Do for Separate School	\$27 00	
Wallace	485 00	
	\$80 00	\$4842 00
Total for County, \$4,922.		

36. COUNTY OF HURON.		
Ashfield	\$527 00	
Colborne	329 00	
Goderich	489 00	
Grey	472 00	
Hay	524 00	
Howick	735 00	
Hullet	466 00	
Do for Separate School	\$32 00	
McKillop	515 00	
Morris	479 00	
Stanley	515 00	
Stephen	447 00	
Do for Separate School	\$50 00	
Tuckersmith	502 00	
Turnberry	435 00	
Usborne	479 00	
Wawanosh, East	359 00	
Do West	358 00	
Do for Separate School	\$16 00	
	\$98 00	\$7631 00
Total for County, \$7729 00.		

37. COUNTY OF BRUCE.		
Albemarle and Eastnor	\$205 00	
Amabel	244 00	
Arran	512 00	
Brant	667 00	
Bruce	509 00	
Carrick	639 00	
Do for Separate School	\$38 00	
Culross	520 00	
Elderslie	501 00	
Greenock	404 00	
Huron	552 00	
Kincardine	555 00	
Kinloss	465 00	
Saugeen	352 00	
	\$38 00	\$6125 00
Total for County, \$6163 00.		

38. COUNTY OF MIDDLESEX.		
Adelaide	\$394 00	
Biddulph	402 00	
Do for Separate School	\$40 00	
Caradoc	686 00	
Delaware	342 00	
Dorchester, North	558 00	
Ekfrid	433 00	
Lobo	471 00	
London	1490 00	
McGillivray	622 00	
do for Separate School	\$9 00	
Metcalfe	332 00	
Mosa	526 00	
Nissouri, West	482 00	
Westminster	845 00	
do for Separate School	\$20 00	
Williams, East	386 00	
Do West	209 00	
Do for Separate School	\$79 00	
	\$148 00	\$7978 00
Total for County, \$8126 00.		

39. COUNTY OF ELGIN.		
Townships.	Apportionment.	
Aldbrough	\$476 00	
Bayham	662 00	
Dorchester, South	281 00	
Dunwich	506 00	
Malahide	632 00	
Southwold	753 00	
Yarmouth	753 00	
	\$4063 00	

40. COUNTY OF KENT.		
Camden	\$502 00	
Chatham	590 00	
Dover	449 00	
Harwich	782 00	
Do for Separate School	\$27 00	
Howard	611 00	
Orford	421 00	
Raleigh	404 00	
Do for Separate School	\$149 00	
Romney	96 00	
Tilbury, East	250 00	
Zone	149 00	
	\$176 00	\$4254 00
Total for County, \$4430 00.		

41. COUNTY OF LAMBTON.		
Dossanquet	\$592 00	
Brooke	343 00	
Dawn	154 00	
Enniskillen	207 00	
Euphemie	323 00	
Moore	512 00	
Do for Separate School	\$30 00	
Plympton	632 00	
Sarnia	465 00	
Sombra	395 00	
Do for Separate School	\$65 00	
Warwick	572 00	
	\$95 00	\$4195 00
Total for County, \$4290.		

42. COUNTY OF ESSEX.		
Anderdon	\$168 00	
Do for Separate School	\$89 00	
Colchester	396 00	
Gosfield	406 00	
Maldstone	278 00	
Malden	212 00	
Mersea	440 00	
Rochester	292 00	
Sandwich, East	508 00	
Do West	302 00	
Tilbury, West	323 00	
	\$89 00	\$3325 00
Total for County, \$3414 00.		

Nipissing	\$242 00
Muskoka	256 00
Parry Sound	206 00
Manitoulin	272 00
Algoma	678 00

Apportionment to Cities, Towns and Villages for 1873.

CITIES.	Public Schools.		R. C. Separate Schools.	Total.
	\$ cts.	\$ cts.		
Hamilton	2998 00	622 00	3620 00	
Kingston	1162 00	519 00	1681 00	
London	1848 00	296 00	2144 00	
Ottawa	1363 00	1557 00	2920 00	
Toronto	5230 00	2371 00	7601 00	
	12601 00	5365 00	17966 00	

TOWNS.	\$ cts.	\$ cts.	\$ cts.
Amherstburgh	116 00	146 00	262 00
Barrie	460 00	460 00	
Belleville	752 00	242 00	994 00
Berlin	327 00	45 00	372 00
Bothwell	135 00	135 00	
Bowmanville	405 00	405 00	
Brampton	283 00	283 00	
Brantford	973 00	126 00	1099 00
Brockville	461 00	227 00	688 00
Chatham	657 00	138 00	795 00
Clifton	152 00	66 00	218 00
Cobourg	602 00	76 00	678 00
Collingwood	383 00	383 00	
Cornwall	194 00	81 00	275 00
Dundas	292 00	133 00	425 00
Durham	134 00	134 00	
Galt	518 00	518 00	
Goderich	536 00	536 00	

TOWNS.	\$ cts.	\$ cts.	\$ cts.
Guelph	757 00	175 00	932 00
Ingersoll	462 00	82 00	544 00
Lindsay	322 00	226 00	548 00
Milton	126 00	126 00	
Napanee	402 00	402 00	
Niagara	152 00	65 00	217 00
Oakville	151 00	77 00	228 00
Orangeville	199 00	199 00	
Owen Sound	455 00	455 00	
Paris	294 00	63 00	357 00
Perth	254 00	68 00	322 00
Peterborough	436 00	188 00	624 00
Pictou	251 00	69 00	320 00
Port Hope	693 00	693 00	
Prescott	217 00	137 00	354 00
Sandwich	158 00	158 00	
Sarnia	328 00	69 00	397 00
St. Catharines	678 00	388 00	1066 00

TOWNS.	\$ cts.	\$ cts.	\$ cts.	VILLAGES.	\$ cts.	\$ cts.	\$ cts.	COUNTIES.	\$ cts.	\$ cts.	\$ cts.
St. Mary's.....	357 00	66 00	423 00	Newbury.....	107 00	.....	107 00	9. Lanark.....	3571 00	.....	3571 00
St. Thomas.....	297 00	.....	297 00	Newcastle.....	150 00	.....	150 00	10. Renfrew.....	3806 00	116 00	3922 00
Simcoe.....	250 00	.....	250 00	New Edinburgh..	82 00	.....	82 00	11. Frontenac....	3864 00	139 00	4003 00
Stratford.....	471 00	113 00	584 00	New Hamburg.....	138 00	.....	138 00	12. Addington....	2168 00	86 00	2254 00
Strathroy.....	438 00	.....	438 00	Newmarket.....	184 00	55 00	239 00	13. Lennox.....	1003 00	.....	1003 00
Tilsonburgh....	217 00	.....	217 00	Oil Springs.....	76 00	.....	76 00	14. Pr. Edward..	2365 00	.....	2365 00
Walkerton.....	149 00	.....	149 00	Orillia.....	178 00	.....	178 00	15. Hastings.....	5567 00	.....	5567 00
Whitby.....	329 00	42 00	371 00	Oshawa.....	322 00	110 00	432 00	16. Northumber-	.....	.....	.....
Windsor.....	576 00	.....	576 00	Parkhill.....	177 00	.....	177 00	land.....	4456 00	98 00	4554 00
Woodstock.....	539 00	.....	539 00	Pembroke.....	204 00	.....	204 00	17. Durham.....	3811 00	.....	3811 00
	17338 00	3108 00	20446 00	Petrolia.....	358 00	.....	358 00	18. Peterborough..	4032 00	86 00	4118 00
VILLAGES.	\$ cts.	\$ cts.	\$ cts.	Portsmouth.....	147 00	85 00	232 00	19. Victoria.....	4566 00	.....	4566 00
Almonte.....	282 00	.....	282 00	Port Colborne....	69 00	63 00	132 00	20. Ontario.....	5009 00	.....	5009 00
Arnprior.....	232 00	.....	232 00	Port Dalhousie..	84 00	64 00	148 00	21. York.....	7012 00	218 00	7230 00
Arthur.....	63 00	43 00	106 00	Port Perry.....	238 00	.....	238 00	22. Peel.....	3138 00	18 00	3156 00
Ashburnham....	166 00	.....	166 00	Preston.....	192 00	.....	192 00	23. Simcoe.....	7967 00	81 00	8048 00
Aurora.....	154 00	.....	154 00	Renfrew.....	91 00	28 00	119 00	24. Halton.....	2540 00	.....	2540 00
Aylmer.....	120 00	.....	120 00	Richmond.....	65 00	.....	65 00	25. Wentworth..	3704 00	55 00	3759 00
Bath.....	82 00	.....	82 00	Richmond Hill..	106 00	.....	106 00	26. Brant.....	2562 00	.....	2562 00
Bradford.....	154 00	.....	154 00	Seaford.....	187 00	.....	187 00	27. Lincoln.....	2519 00	55 00	2574 00
Brighton.....	184 00	.....	184 00	Smith's Falls....	158 00	.....	158 00	28. Welland.....	2499 00	29 00	2528 00
Brussels.....	106 00	.....	106 00	Southampton....	118 00	.....	118 00	29. Haldimand....	2855 00	37 00	2892 00
Caledonia.....	170 00	.....	170 00	Stirling.....	106 00	.....	106 00	30. Norfolk.....	3866 00	50 00	3916 00
Carleton Place..	165 00	.....	165 00	Streetsville.....	83 00	.....	83 00	31. Oxford.....	5169 00	.....	5169 00
Cayuga.....	110 00	.....	110 00	Thorold.....	122 00	98 00	220 00	32. Waterloo.....	3759 00	154 00	3913 00
Chippawa.....	125 00	.....	125 00	Trenton.....	161 00	81 00	242 00	33. Wellington..	6467 00	259 00	6726 00
Clinton.....	274 00	.....	274 00	Uxbridge.....	203 00	.....	203 00	34. Grey.....	7484 00	186 00	7670 00
Colborne.....	113 00	.....	113 00	Vienna.....	82 00	.....	82 00	35. Perth.....	4842 00	80 00	4922 00
Dresden.....	139 00	.....	139 00	Wardsville.....	76 00	.....	76 00	36. Huron.....	7631 00	98 00	7729 00
Dunnville.....	198 00	.....	198 00	Waterloo.....	235 00	.....	235 00	37. Bruce.....	6125 00	38 00	6163 00
Elora.....	169 00	37 00	206 00	Welland.....	153 00	.....	153 00	38. Middlesex....	7978 00	148 00	8126 00
Embro.....	65 00	.....	65 00	Wellington.....	74 00	.....	74 00	39. Elgin.....	4063 00	.....	4063 00
Exeter.....	140 00	.....	140 00	Yorkville.....	299 00	.....	299 00	40. Kent.....	4254 00	176 00	4430 00
Fergus.....	201 00	24 00	225 00		11456 00	701 00	12157 00	41. Lambton.....	4195 00	95 00	4290 00
Forest.....	149 00	.....	149 00					42. Essex.....	3325 00	89 00	3414 00
Fort Erie.....	114 00	.....	114 00					District of—			
Gananoque.....	275 00	.....	275 00					Nipissing.....	242 00	.....	242 00
Garden Island..	103 00	.....	103 00					Muskoka.....	256 00	.....	256 00
Georgetown.....	175 00	.....	175 00					Parry Sound....	206 00	.....	206 00
Hawkesbury.....	226 00	.....	226 00					Manitoulin....	272 00	.....	272 00
Hespeler.....	108 00	.....	108 00					Algoma.....	678 00	.....	678 00
Holland Landing	87 00	.....	87 00						170392 00	3081 00	173473 00
Iroquois.....	105 00	.....	105 00								
Kemptville.....	120 00	.....	120 00								
Kincardine.....	261 00	.....	261 00								
Lanark.....	101 00	.....	101 00								
Listowel.....	133 00	.....	133 00								
Lucan.....	127 00	.....	127 00								
Merrickville....	126 00	.....	126 00								
Millpoint.....	119 00	.....	119 00								
Mitchell.....	244 00	.....	244 00								
Morrisburg.....	159 00	.....	159 00								
Mount Forest...	174 00	13 00	187 00								
Newburgh.....	113 00	.....	113 00								

Summary of Apportionment to Counties, 1873.

COUNTIES.	Public Schools.	R. C. Separate Schools.	Total.
1. Glengarry.....	\$ cts. 2622 00	\$ cts. 158 00	\$ cts. 2780 00
2. Stormont.....	2297 00	.....	2297 00
3. Dundas.....	2282 00	.....	2282 00
4. Prescott.....	1926 00	238 00	2164 00
5. Russell.....	1178 00	.....	1178 00
6. Carleton.....	4031 00	240 00	4271 00
7. Grenville.....	2432 00	34 00	2466 00
8. Leeds.....	3798 00	20 00	3818 00

GRAND TOTALS.

Countries & Districts.....	170392 00	3081 00	173473 00
Cities.....	12801 00	5365 00	17966 00
Towns.....	17338 00	3108 00	20446 00
Villages.....	11456 00	701 00	12157 00
	211787 00	12255 00	224042 00

II. Papers on Education in Various Countries.

ILLITERACY IN THE UNITED STATES.—General John Eaton, jr., Commissioner of Education, will in his forthcoming report, give the following important and very interesting facts in reference to the illiteracy of the people of the United States. These are facts in question :

Total population of the United States.....	38,558,381
Illiterate ten years old and over.....	5,658,144
Persons under five years old.....	962,942
Total number of persons almost certainly illiterate of all ages.....	12,359,799
Estimated number of persons able to write in 1870.....	26,422,572
Per cent. of total estimated illiteracy to total population.....	31.47

Such a compilation as the foregoing has never been embraced in any former report on education, and will be of value as an argument upon the question of compulsory education,—a question just now attracting more attention than any other in an educational way, and which must ere long be settled nationally, as it seems to us.

AMERICAN EDUCATIONAL BENEFACTIONS.—It has been left to the United States commissioner of education to sum up the benefactions made by private individuals for educational purposes throughout the country during the last two years, and the statement which he now makes is as surprising as it is gratifying. The entire amount for 1871 was something over *eight millions of dollars*, and that for 1872 very nearly *ten millions*. The amount for 1872 (we

so interpret the statement) was divided as follows : For colleges and universities, \$6,282,461.63 ; for theological institutions, \$1,155,856.53 ; for libraries and normal schools, \$1,020,000 ; for superior schools for females, \$689,993 ; for agricultural and scientific schools, 482,000 ; for academies, \$306,040 ; for medical schools, \$10,422.13 ; and for law schools, \$10,000. The total is a magnificent one, and the apportionment is suggestive.

THE ROD QUESTION.—Mr. Henry F. Harrington, Superintendent of Schools in New Bedford, lately delivered an address in Malden, Mass., in which he argued that the question of discipline in the schools, with its *pros* and *cons*, in relation to the rod and other details of management, might be solved by employing to a larger degree men and women of character as teachers, so that whatever punishment was found necessary might receive its value and due effect from the source it came from. Children, even the youngest, he said, are quicker even than "grown people" whether there is a man or only a sham behind the vocation of the teacher or superintendent, or other person connected with the schools which they attend.

NEEDLE WORK IN SCHOOLS.—The Boston *Advertiser* expresses the hope that the school authorities of that city "will take definite action as soon as possible on the matter of enlarged and systematic instruction in sewing for the girls in the public schools. It is impossible to overstate the importance of this teaching. The knowledge of sewing should be considered as essential to a girl's education as the knowledge of reading, and the instruction in needle-work should begin in the youngest of the primary schools, and be continued until the pupils are thorough and accomplished seamstresses."

1. SALARIES OF TEACHERS IN THE PRINCIPAL CITIES OF NEW ENGLAND.

CITIES.	Supt.	HIGH.		GRAMMAR.		PRIMARY	Population.
		Male.	Female.	Male.	Female.	Female.	
BOSTON	\$ 4,500	\$ 4,000 3,000 2,400	\$ 1,800 1,500 1,200 1,000	\$ 3,200 2,400 2,000	\$ 950 850 800	\$ 800	251,000
PROVIDENCE	2,500	2,200 2,000	1,300 1,150 950 800 600	2,000 1,500	725 650 600	525 450	69,000
NEW HAVEN.....	3,000	3,000 2,200	1,000 800 700	2,200 2,000	1,000 700 650 600 400	800 550 500 450 400	51,000
WORCESTER.....	3,000	3,000 2,500 2,200 1,000	1,000 900	1,900 1,700	1,200 750 575 550	500	41,000
LOWELL	2,300	2,200 2,000 1,700	750	2,000 1,700	800 600	600	41,000
CAMBRIDGE	3,000	4,000 2,500 2,000	1,000 800	2,500	700	700	40,000
HARTFORD	None.	3,500 1,200	1,200 800	2,800 1,200	800 500	600 400	37,000
PORTLAND.....	None.	2,500 1,500 800	1,000 700 600 500	1,800 1,600 1,400	650 600 450 425	450 400	31,000
LAWRENCE.....	*1,750	3,000 1,200	900 750	2,400 1,600	600 575 550	650 575 550 500 475	29,000
CHARLESTOWN	3,000	3,000 2,200 1,800	1,000 700	2,100 1,800	775 650 575	650 575	28,000
LYNN.....	None.	2,400 1,800	800	1,800	600	600	28,000
SPRINGFIELD.....	3,000	2,500 2,000 1,300 1,500	700 650	2,000	1,100 650 550 455 475	650 550 500 450	27,000
FALL RIVER	2,000	1,700 1,500	700	1,500	500	475	27,000
SALEM	2,500	2,500 1,300	1,000 650	1,800	1,000 500	600 500	24,000
MANCHESTER	1,800	2,000	800 450	1,500	450	450	24,000
NEW BEDFORD.....	2,000	1,800 1,600	1,000 900 800 650	1,750 1,500	600 525	525 475	21,000

Where the salary varies according to the number of years of service, the HIGHEST is given in the table.
* For a portion of his time.

—R. I. Schoolmaster.

—It is expected that the expenses of the election of the School Board for Edinburgh will amount to somewhere about £2,200.

—The Council of the Society of Arts proposes erected a building suitable for the purpose of a National Training School for Music, at a cost of £20,000.

—The death is announced of Mr. William Mitchell, of Edinburgh City Mission. He was a schoolmaster in Edzell for many years, and numbers of his pupils now in America and Canada will be sorry to hear of his demise.

—The winter session of Edinburgh University is closed. The honorary degree of D. D., was conferred on Rev. Marcus Dods, Glasgow; Rev. J. O. Dykes, London; Rev. Dr. Forbes, Aberdeen; and Rev. Mr. Stuart, Edinburgh; while Professor Allman, Edinburgh, Dr. Carlyle, Mr. J. M. Lindsay, Edinburgh, and Professor Lushington, Glasgow, received the degree of L. L. D.

—The Rev. W. P. Dickson, D. D., Professor of Biblical Criticism, has been appointed to the Chair of Divinity, vacant by the preferment of the Rev. Dr. Caird to the Principalship of the University. Dr. Dickson, the new Professor of Divinity, was born in 1823, in the Manse of Pettinain, near Lanark, where his father, the Rev. George Dickson, was parish minister.

2. SCHOOLS OF DESIGN IN MASSACHUSETTS.

The legislature of Massachusetts has passed a law authorizing the establishment of schools of design in every village; the object being to improve education among artisans. In every town of ten thousand inhabitants the State will maintain at least one such school.

3. ERA OF SCHOOL-HOUSE BUILDING IN PENNSYLVANIA.

The period during which the present State Superintendent has been at the head of the School Department may well be called the era of school-house building. There was paid for building and repairing school-houses in the State, including Philadelphia, in 1865, \$465,088.88; in 1866, \$725,000; in 1867, \$1,262,798.68; in 1868, \$1,991,152.55; in 1869, \$2,455,848.71; in 1870, \$2,765,644.34; in 1871, \$3,386,263.51, and in 1872, \$2,864,113.35.

This vast increase is truly wonderful, but gradual and healthy. The demand for new and better school-houses was general, and taxes levied to erect them seem to have been paid with great cheerfulness. In a few localities there may have been extravagance, and houses may have been built for show more than for use; but personal observation, in all parts of the State, enables me to say that the directors, in building school-houses, have been generally guided by principles of economy. Of course, much money has been loaned and many school districts are now heavily in debt; but this is inevitable under the law that limits the amount of tax that can be levied for building purposes. Besides, many directors are unable to see why the present generation should bear the whole burden of erecting a school-house that will last for several generations. Nearly all the boards that have gone in debt have wisely provided a sinking fund, and propose to make annual reductions in the amount owed by their districts. The falling off in the amount expended for school-houses during the last year is owing to the passage of the law of 1871, authorizing the several courts of common pleas of the Commonwealth to grant school directors power to borrow money to build school-houses. This law was enacted for the laudable purpose of preventing the passage of special acts concerning the borrowing of money by school boards. It was not designed to check the progress making in school affairs, but it has had that effect. The feature of the law most objectionable to directors is that which requires them "to produce to the court the consent, in writing, of a majority in number of the qualified electors" of their respective districts. As they are elected by these same citizens, and directly responsible to them, they deem this part of the law as unnecessary as its execution is troublesome. I respectfully recommend a modification of the law.—*Penn. School Report, 1872.*

4. NECESSITY FOR COMPULSORY EDUCATION.

In his lecture on Compulsory Education, Mr. Beecher says:—

At one time all Europe was discussing war problems; then politics; again theology. Very many of those matters which once commanded the most thorough research and study were now considered of no account whatever. Now a more important and practical question was attracting universal attention—education occupies the mind of the civilized world—common, rudimentary instruction of the masses, and not the peculiar privileges of the more favoured classes—and for this he pleaded. In Great Britain the church question had become subordinate to that of education, and now the query of most importance was:—Who shall instruct the children—shall the priest or the people? Plainly it was the duty of the citizens and of government. The priesthood had done good service, but their day had gone, and education had become the duty of the State. In Great Britain it had come to be considered the God-given right of the people, and German influence was being felt over all Europe. The German Empire owed its solidity to its schools. It was the intelligence of the North German soldiery that conquered Austria, and she was learning wisdom from her conqueror. In Italy and Switzerland education has been made compulsory, while France lags behind—is the bottom State—because her masses are ignorant; and may never hope to cope with her neighbours while such is the case.

Governments have long been trying to learn how best to ride the people, and it is proven that the best saddle is intelligence; that knowledge implies good citizenship. Education is military force, and our civil conflict was really the Northern school against the Southern plantation. The most intelligent people produce the greatest wealth *per capita*; our country leading among the nations, and Connecticut among the States. The patent records showed one invention to every 831 people in that State, while in Arkansas only one in 37,000 knew enough to invent anything. Prices are regulated by the amount of brains required in production, and combinations can no more produce uniformity than they can make men look alike. The man who has the most brains will receive the best pay, and stand highest in the estimation of his fellow-men. The time is coming when our country will have a population of 500,000,000. How shall they be made safe and orderly? Every known country was paying tribute to America, and sending its population here, with all their diverse religions, customs and ideas. Such a combination can never be made harmonious except by na-

tional education. If religion meant love to God and love to man, it would be a controlling power. But while in a few hearts it means this, at all other points it bristles with warfare. Religion *should* mean harmony; intelligence *does*.

Education should include political principles, morality, social duty. It should be made compulsory. Every State should provide for the education of its whole people. Such provisions had been such principles settled; but as farmers sometimes plough up the old sod and sow again, so it befits us to deal with moral growths, and it is time now to discuss this great matter once more. The influence of foreign elements in our population demands a lively interest in the whole matter. The State must educate its people, and not the church. The State has a right to make its own existence secure, and security to the State comes only from the education of the whole people, which thus becomes self-defence. Dogmatic religion, is not necessary to the existence of the State; intelligence is. School houses should be multiplied till they are ample for the accommodation of all, and the teacher should be among the most honoured of the land. No one stands so near the father and mother in influence upon the future of the country, as the school teacher—not professors in colleges, but the educators of the masses.

Our schools do not teach enough. They should include the distinction between good and evil; inculcate truth, honesty, temperance, self-control fidelity, economy and patriotism. It was not imperative that the use of the Bible be insisted upon, for really it was not the most felicitous school book; but more *truth* should be taught. Every man should improve in the use of truth. Is there truth in the houses we build? in the goods we sell? in the work we do? Are there not as many untruths as mice in an old hotel? We grasp for more than we deserve, and find ourselves cheated in the quality. It is vain to teach the higher branches and leave the most important things untaught. Men should be so taught as to be patriotic, not when the drum beats and cannon roar, but when they stand alone. Dapper, dainty, delicate young men, who are afraid of hard work, swarm in all the cities and beg for soft positions under Government and in fat offices. It is a sin for any man to bring up a boy thus; they should be taught to take care of their mouths and backs with their own hands. It is a shame to know all about Mars and Jupiter and nothing of Massachusetts. The State schools should be made so good that no private school can live in their vicinity; and every poor boy should look up to the State as his rich uncle. Compulsory education ought to give no just person offence. The law gives no annoyance to the man who always keeps in advance of it. Self-interest might demand education, but it could not be depended upon. Many foreigners come here desiring education for their children; others, who ought to be equally interested, come with far different motives. They are a useless and dangerous class without intelligence. We have 5,000,000 men in the country, who cannot make *anything*, and these all require education. The speaker hailed the coming of the Chinese to our western shores, for they brought their hands full of tools—brought intelligence, education and industry. He did not fear their religion, for if their Joss was stronger than our Jehovah he ought to reign; but the time was not distant when they would become valuable, God-serving citizens.—*American Journal of Education*

III. Papers on Practical Education.

1. FORESTALLING EVIL IN THE SCHOOL-ROOM.

When trees are cut from the banks of rivers and the soil is left untilled, we hear of freshets, inundations, and destructive floods, because there are no leaves and rootlets to gather up the superabundant moisture and work it into living forms. So in the school-room: if overflowing drops of fun, mischief, and naughtiness are not caught up, but are left to trickle into one common stream, teachers may well stand aghast at the ruinous consequences. As all the mud, debris, and slime, is borne on the surface when the river is disturbed, so all that is hateful and ugly in the child's nature works out when he is thoroughly roused. The best results of weeks of patient labour are apparently swept away, and even after the excitement subsides, injured and angry feelings pervade the whole school. The one who finds himself equal to such crises is strong and wise, but he who prevents them is wiser still. Once in a while a little active exercise answers this purpose well. Rob is restless, and eyes you furtively; if you suspect pop-guns and spit-balls, send him out to sweep the steps. Very likely he will snow-ball a while, but the pump and guide-post are used to it, and by the time he comes back he will have discharged from his finger-ends much trouble and mischief. Perhaps he is inclined to stir up his neighbour by various entertaining and familiar little devices of pinching and pricking—will he run home for the keys you have forgotten, and be back in five minutes? His activity finds a natural outlet; afterward the

child sits quietly down to his books. Many a teacher has proved incidentally the success of this little manoeuvre, then why not give him something of real importance to do. For this reason it may often be found useful to keep a list of little repairs and improvements which can usefully employ ten minutes of a rogue's time. Nothing softens and refines an ugly boy more than trusting him and allowing him to do real favours. Through the chivalrous element of his nature which is easily quickened, a strong hold can soon be gained upon him—interest and affection often replacing the old indifference and churlishness. Or again, perhaps Katie is inattentive and listless in the class. Don't wait until it is a habit—nip it in the bud. Let her place the exercise on the board. If she is stupid and dull, think of some way to rouse her; try rearrangement; if her name begins with "A," let her stand at the head, placing the others alphabetically; if she is the oldest, let age decide the rank—if neither, think of some way to make two lines, giving her the head of one, allowing each to choose sides and have competition. This can be done in spelling, parsing, map questions, arithmetic, and other recitations. Almost any girl will succumb under some process of this kind and may show intelligence, pride, and self-respect, which you think entirely wanting. No one will be harmed by this emulation if, as soon as you have gained your point, you adopt some other plan. Annie is playful, and laughs; before the others have time to catch her spirit let her bring you a book from the table down stairs—if that does not take the fun out of her, it must be that you need the other one too. Two journeys over the stairs make quite a reduction in a funny mood. Much trouble can be prevented by keeping work ready to put in idle hands. The boy who is marking his desk can draw some nice geometrical figures for you, if you give him pencil and card board; the one who is whitening his chair, might be better employed in cutting them out, and still another can print the name on each. After doing so much good they are then ready for your use. These are only a few of the leaves and rootlets by which the teacher can draw into healthful and useful channels the overflowing energies of children. It may be objected that the child loses valuable time by this method. Perhaps he does—but is it not better for him to waste five or ten minutes of his own time occasionally, than for you to spend the same number of minutes or more in reproving him when the mischief is done? It may also be objected that there are times when the scholar should feel the teacher's authority in compelling obedience. When that point is reached, each teacher does better to use his own discretion. These suggestions are thrown out as preventives merely, and do not apply to such cases. Be assured they are not the theories of leisure hours; accept them rather as the matured products of actual experience.—*Miss Gibbs, in Conn. School Journal.*

2. THOROUGHNESS.

ONE of the great defects of the present day, especially in our own land, is a want of thorough knowledge, and of a disposition to attain it. There is no lack of pretenders, but when culture or finished men are sought for, it is almost impossible to obtain them. We do nearly everything in too much of a rush. We generally live too fast. We imagine that we are old, while we are still youthful, that we shall be behind the times and remain unknown if seven or ten years, or more, are spent in solid preparation for life's duties. A complete course of study is already abridged, from the mistaken view that time is too valuable to be employed in developing and strengthening the powers of the mind. We are in too great a hurry to enter upon the duties of an active life,—"to make our pile,"—or to engage in any other pursuit than that of learning, if it promises even a possible realization of our hopes. . . . There is a strength derived from a liberal culture of the mind that can be obtained from no other source. It makes men and women stronger, no matter what positions they may afterwards fill. It is not by the physical, but by the mental powers of man, that the world is being subdued. It is through the intellect that the subtle forces of nature are made to do our bidding. . . . But, however priceless strength of mind may be, we have not attained the full zenith of our power until this be supplemented by sound moral principles and the courage to maintain them. It is just here that multitudes fail to achieve noble ends. There are too few possessed of this moral energy, needed to meet the sneering laugh or the studied coldness of their associates; too few who, knowing that they are in the right class, maintain it, and leave the issue with Him who smiles only upon the brave and true-hearted.—*The Minnesota Teacher.*

3. HINTS FROM PRACTICE.

Monthly Examinations.—We find monthly written examinations as much of a necessity as the compass is to the mariner. Classes may drift from the track. The work may be imperfectly understood by the pupil, and the teacher may not know it. These examinations

disclose the true condition of things as nothing else can. They are more of a necessity to the teacher than to the pupil, if he would do thoroughly honest work. Examinations make work, and some teachers would shirk them on that account. Teachers do not spend more than six or seven hours in the schoolroom per day. They should make the time up to eight or ten hours out of school, as other employes do. While some would shirk, others do their whole duty, and sometimes go to the extreme of overwork.

Written Reviews.—We find that a semi-monthly written review of our classes is a most valuable aid in our work,—taking only the time of preparing and reciting a recitation for it. This prepares for monthly examinations; takes a new reckoning. This review is conducted by the teacher for her guide for the month's work.

Written Recitations.—Unless care and attention are given to oral recitations, there will be much looseness in answers, much taken for granted, much indirect aid, etc. Written recitations will put pupils upon their own resources, and frequently reveal to the teacher better methods of oral recitation. Our regulations require "at least one written recitation, review, etc., per week." This requires work, but it can be done in less than ten hours per day. It may take eight; it ought to take that much.

Reports.—We do not make monthly reports to parents. Some appreciate such reports; many do not. It requires much labour on the part of the teacher that can be better employed. When a pupil falls below the required standard of 80 per cent, parents are informed of the fact by filling out a blank for the purpose, stating that the pupil will fall into the class of the next lower grade unless the parent will assure the teacher that one hour per day out of school will be spent upon the study in which there was a failure, preparatory to a re-examination. The pupil who has failed, is required to hand to the teacher each morning a written statement of the time studied and the particular subject studied until re-examined. This does not take much work in practice; but with written lessons, written reviews, thorough work, and fair examination-tests, few need to fall below the standard. If, after all, pupils fall below 75 per cent, they should be put back without further trial,—except in special cases when no general rules can apply,—subject to the common sense of the teacher.—G. N. C. in *Nat. Tea.*

IV. Papers on the Teacher.

1. HOW TO CHOOSE A TEACHER.

I have often read, "how to choose a wife," "how to write a letter," "how to get rich," "how to make a garden." These and kindred themes have been fully expounded by others, but I am aching to have my say and tell the expectant world, not how to teach school (normal shades be not offended), but *how to choose a teacher.*

Do not look for a dandy. The man who spends his time fixing up his outside, probably will have little left to see to the little within, and less to help other people.

Do not choose a graduate. By a graduate I mean one whose education is completed, who knows everything from addition to parallax, from English to Arabic, and can glibly tell all he knows in a few minutes. No, do not choose a mere graduate, though he have "four diplomas" in his trunk.

Do not in every case look for an "experienced" teacher. Experience is valuable, but if good, is not always in the market, and it is better for you to "break another colt" than pasture a worthless, broken down horse.

Avoid a boaster. It has come to be a proverb in some quarters "as conceited as a school master," nevertheless, the good teacher, though not wanting in self-respect, seldom finds it necessary to blow his own trumpet.

Shun a fault finder. He who is continually finding notes in fellow teachers' eyes has, no doubt, many a beam in his own.

Do not look for a teacher full of hobbies. He may last for a little while, but he runs not well.

Having decided what you will not look for, start briskly on your journey.

Look for common sense, it is better than Greek;
Look for patience, it is better than "grit";
Look for knowledge, and a desire to increase it;
Look for modesty. Look for Christianity.

(P. S. Do not look for an angel.)

DOWN EASTER, in *Maine Journal of Education.*

2. GET THE BEST TEACHER.

The season is now at hand when school trustees are engaging teachers for the summer-schools. Why will not those officials adopt and apply in this work the same common-sense views and principles

that they do in the various business callings in which many of them are engaged? In other words, why will they not go upon the principle that the best-qualified teachers are in the end the cheapest? In all soberness, it is time that we abandon the policy, so common in many towns, of employing the lowest-priced teachers, under the impression that the lengthening out of the school thereby will be a great gain to all concerned. Now if there is any one fact fully established in the minds of those who have had various and practical experience in the management of schools, it is this: That a good school of eight weeks, taught by a teacher of skill and tact, is worth more than a poor school by an indifferent teacher, of twice or even three times that length. Indeed a poor school has little value to speak of, in an educational point of view, to the pupil. Such a school may and often does result in more harm than good; just as a bungling mechanic may not only fail to turn out a good piece of work, but may even spoil whatever he has in hand. What owner of a valuable horse will allow that horse to be shod by an unskilled blacksmith? Why, then should the training of children be left in the hands of those who have made no special preparation for the work, or whose qualifications are known to be entirely inadequate? School officers hold a precious charge in trust for the people. It becomes them to look well to the manner in which they discharge their responsible duties. The value of the school depends more upon the character and skill of the teacher than upon all other agencies combined. The best teachers are those who are well qualified for their business. Get the best.—*Maine Journal of Education.*

3. BENEFIT OF VISITING SCHOOLS.

The following from a contemporary is right to the point: "The man or woman who drops into the school-house often and shows an interest in their comfort, is a public benefactor. Both teachers and scholars are encouraged to good behaviour and extra efforts. Who does not remember the stimulus to the whole school of a visit from a parent or other persons? A school visited once or twice a month—the visitor insisting that no change of programme shall be made—will generally be twice as prosperous as the school which is never visited. No one should leave others to attend to this matter—The public school should be the pet and pride of every parent."

4. WHAT SHOULD BE DEMANDED OF TEACHERS?

BY ANNA RANDALL DIEHL.

I. Higher scholastic attainments.

II. Technical training.

III. More heart in the work.

I. We have been making progress in teaching during the last twenty years, but it will be a long time before anything like a school-millennium is enjoyed, unless we have more skilled workmen. The public and the law ought demand that teachers have, as a basis, a thorough academic if not a collegiate education. Instead of this we find many who know, barely, what they are expected to teach, and instances may be cited where they scarcely keep pace with the most proficient of their pupils. Anything like a perfect acquaintance with geography, arithmetic, grammar, reading, writing and spelling is meagre.

Izaak Walton said, when asked in regard to the requisites of a good fisherman, "He must first of all understand the nature and habits of fish." It is certainly no less necessary that the teacher, who is, in one sense, a fisher of men, should understand the nature of the mind and its order of development. It is now universally conceded that education should begin with the senses, with training the percepts, and that the elements of the sciences, at least rudimentary instruction in the three kingdoms of nature, should be given orally and before the child is of sufficient age to grapple successfully with books. Let, then, mental philosophy, physiology, zoology, botany, chemistry and geology, these branches, if no more, be added to the teacher's curriculum, and an examination in them be demanded by law.

II. There should be training in the technics of teaching. This is done in the normal school, in the teachers' institute, and by reading books upon the philosophy of education and the best methods of imparting instruction.

In nearly all the countries of Europe no person is a legal teacher who has not been for two or three years a pupil in a normal school, or, as it is generally called, a seminary of training. Visiting a school in Ruabon, Wales, I saw very superior instruction in the primary department. Many of the children were not over two and three years of age, and not so much attention was paid to teaching them to read as to develop perception and language by means of lessons in form, colour, etc. Three teachers were conducting exercises simultaneously in different parts of the room, while the whole work was under the supervision of an experienced principal.

pal. I found that these assistants had each spent two years in the training school, paying no tuition; but that they were now called probationary teachers, and for five years would receive but thirty dollars annually for their work, thus, in effect, refunding the money which had been expended upon their education.

Recently, when attending an institute in the eastern part of Maine, I learned with great satisfaction that just over the border, in New Brunswick, none but trained teachers are employed.

We ought to cover our faces with shame that it is not so here. Let the normal schools be filled; let others be established; and let none but graduates of these schools be employed as teachers. We hope to see normal schools, sometime in the future, which are entirely professional, and not three-fourths academical as most of them, of necessity, now are; where not only the theory of teaching is taught, but where the practising department is the grand workshop.

Teachers' institutes are doing much in disseminating knowledge and teaching advanced methods. In Pennsylvania especially, where "Director's day" is a regular feature, where the whole county is represented by its school officers, who come face to face with its teachers, discussing with them the qualifications for teaching and the wages to be paid, where the State Superintendent comes with a warm heart and ready brain to admonish and advise, the teachers are not only invigorated and encouraged, but the whole State is annually permeated with new educational life.

The teacher's miscellany is not meagre. When such men as Milton, Locke, Froebel, and Diesterweg have written; when John Stuart Mill, Jacob Bright, Hepworth Dixon, and scores of able ones in our own country, are writing upon the vital educational questions of the day, there is no excuse for ignorance on the part of teachers. In Austria, Switzerland and Prussia I did not find a teacher who had not some book upon teaching.

III. Teachers should have more heart in their work. Broad culture and thorough preparation will do more than anything else in bringing about this desideratum. Holland says: "The work of teaching should be done by men and women of the purest motives, the noblest enthusiasm, the finest culture, the broadest charity and the most devoted Christian purpose."

The worth of such teachers cannot be estimated this side of eternity. They will never be accused of lacking heart in their work.

5. APPLYING THE SURPLUS.

It was a wise provision of the Ontario Government that dictated the application of the scattered surplus to works of public utility. We see by the Report of the Inspector of Schools for the County of Oxford, that a large portion of the houses used are in a lamentable condition. It is not necessary to specify all the deficiencies as to comfort and decency, that are reported by Mr. Carlyle. It is enough to know that in this advanced section, where wealth abounds, such is the state of public taste, that thirty per cent. of the school-houses are classed either as "poor" or "very poor;" that the condition of the school furniture and apparatus is even in a condition worse, if possible, than the buildings. It is not a little singular that in the Township of Blandford, a yard or enclosure to a school-house is unknown, with one exception; and that one is classed as "very poor." It is no wonder, when the spirit of economy rages to such an extent and the buildings are thus pronounced, that the management, as in many cases, should be set down as "poor" indeed. It is much to the credit of several of the teachers, who labour under the disability of the absence of accommodation, and without auxiliaries, that the standing of their pupils as to education is favourably reported. It is however, when we come to the general remarks of the Inspector, that we are given to understand the actual state of affairs. Anything more distressing than is here to be found, can not be imagined. Out of one hundred and twenty seven schools, not one is reported as satisfactory. "Bad management," "wretched accommodation," "outside interference," "insufficient classification," "over crowded," "cheap Teachers," "cared for by nobody," are the reasons assigned by the Inspector. Now if we consider for a moment, the consequences of all this can be fully and fairly estimated. The season of instruction in this country, in most cases, is but short; it is the more necessary then that our young people, while at school, shall have every facility. Every thing that money and taste can procure should be called into requisition, as well to make the school and its surroundings attractive and agreeable, as that the teacher's qualification shall be up to a given standard. It was enough in the early days of the country that children had drawbacks to overcome, and that the accommodation was poor. Now, however, when every farmhouse has its piano, or its melodion, and its sewing machine, and a carriage and silver mounted harness are necessities to go to church or get to market, some little regard might be given to educational facilities and the habits of the rising generation. *Ex nihilo nihil fit*; or to put it in

plain Saxon, you cannot make a silk purse out of a sow's ear; so if we neglect to give to our sons and daughters—not merely the rudiments of an education but acquaintance with the habits and surroundings of proper culture, and never cause them to feel that life has higher pleasures than the display of wealth, we check the growth of usefulness and blast the prospect, except at terrible disadvantage.

Great allowances have to be made for much of that giving a contrast to the people of this and older countries. When our unaided resources are not only ample, but when the Legislature has wisely stepped in and placed in our keeping, more than sufficient to render every school in the country what it should be—comfortable and commodious within, and attractive in its surroundings—let us hope that that share of the surplus given to the municipalities of Oxford will be applied liberally and with taste, to the improvement of our educational institutions. Let it not be said that we improve our farm steadings and add to our account at the banker's, while we dwarf the mental proportions of our youth by the wretched provision made for the growth of taste and of scholastic acquirements. The deficiencies of the early settlers are noticed under a modest mien; but the shortcomings of young men and young women of to-day glare terribly in the sunlight of a civilization that takes little account of a hoarding a few dollars, or the acquisition of a few acres. While we deplore the exhibit given by the Inspector, sensible people will consider the exposure timeous; and Mr. Carlyle and the Teachers' Association could engage in no work of more advantage than that resulting in a complete change in the character of our schools. Now is the time to press the subject home to the people.—*Woodstock Times*.

Knowledge may increase sin if the heart be not educated as well as the head.

The facts which a child learns at school are of less practical value than the habits of thought and feeling which he acquires. The mental act is more important than the acquisition.

The more I think of it I find this conclusion more impressed upon me,—that the greatest thing a human soul ever does in this world is to see something, and tell what it saw in a plain way. Hundreds of people can talk for one who can see. To see clearly is poetry, prophecy, and religion,—all in one.—*Ruskin*.

The school is no place for a man without principle. I repeat, *The school is no place for a man without principle*. Let such a man seek a livelihood anywhere else; or, failing to gain it by other means, let starvation seize the body, and send the soul back to its Maker as it is, rather than he should incur the guilt of poisoning youthful minds, and dragging them down to his own pitiable level. If there can be one sin greater than another, on which heaven frowns with more awful displeasure, it is that of leading the young into principles of error and debasing practice of vice.—*Page*.

It is too late in the day to think of damming up the stream of popular enlightenment; it is clear that more and more of art and science and personal education, domestic comfort and refinement are to inundate the world, until there shall be no room for ignorance, either of the laws of the human mind, or of the physical globe we live on. Where the front rank of intelligence now stands, the rear rank shall presently stand, while the great procession of humanity gradually advances higher and higher up the mountain of knowledge, and looks down upon its old ignorances and mistakes, its superstitions and delusions, with wonder ever to have lived under their influence, and with joy and gratitude in having escaped from their dominion.—*Liberal Christian*.

Teach what will be used in after life.

Teach as we use in after life.

Teach from the known to the unknown.

Teach pupils to do things.

Teach the how before the why.

Do not tell, but draw out.

Teach as much as possible by application.

Teach by topics.

Teach at every recitation something not found in the books.

Give class instruction as much as possible.

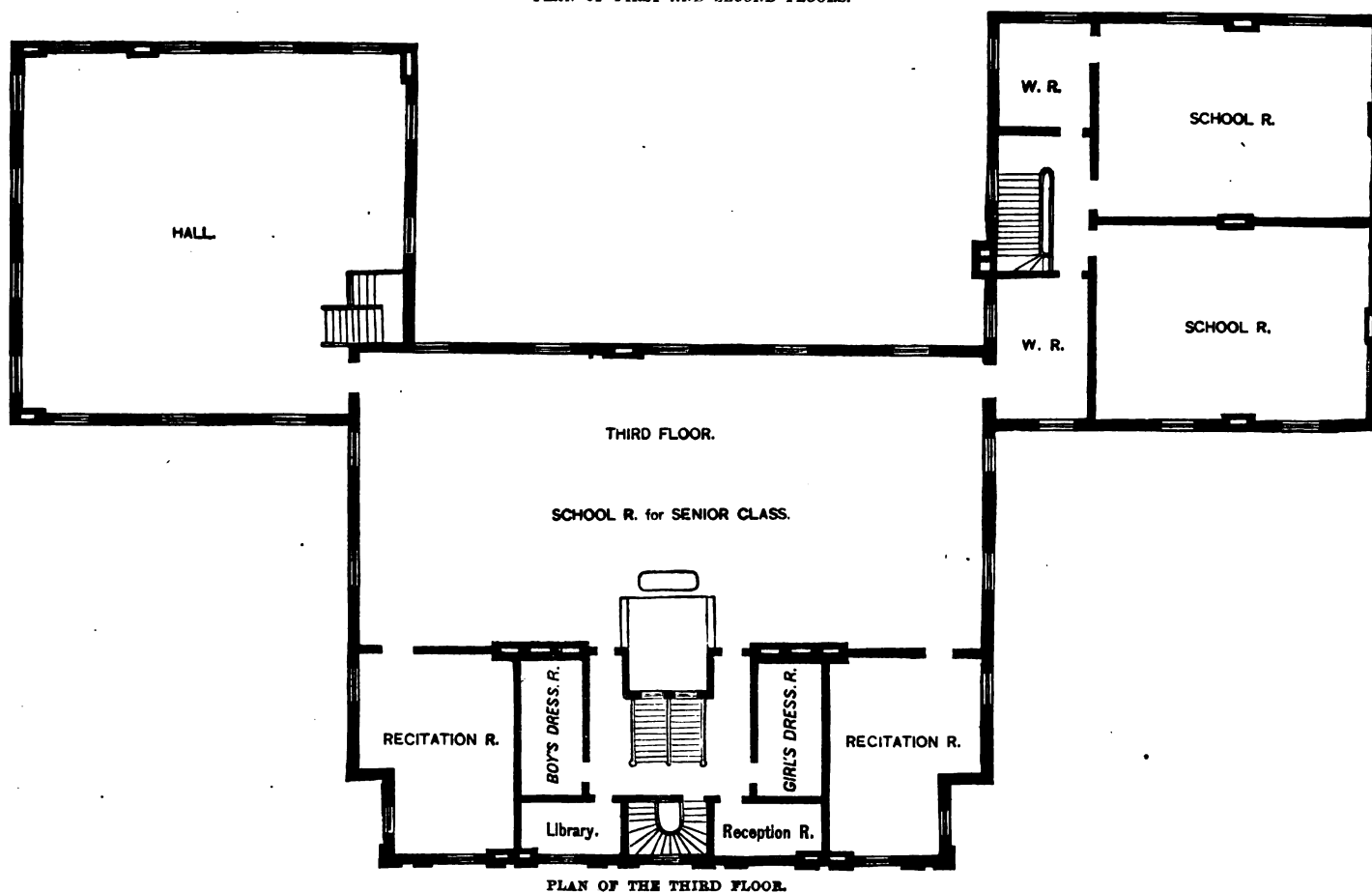
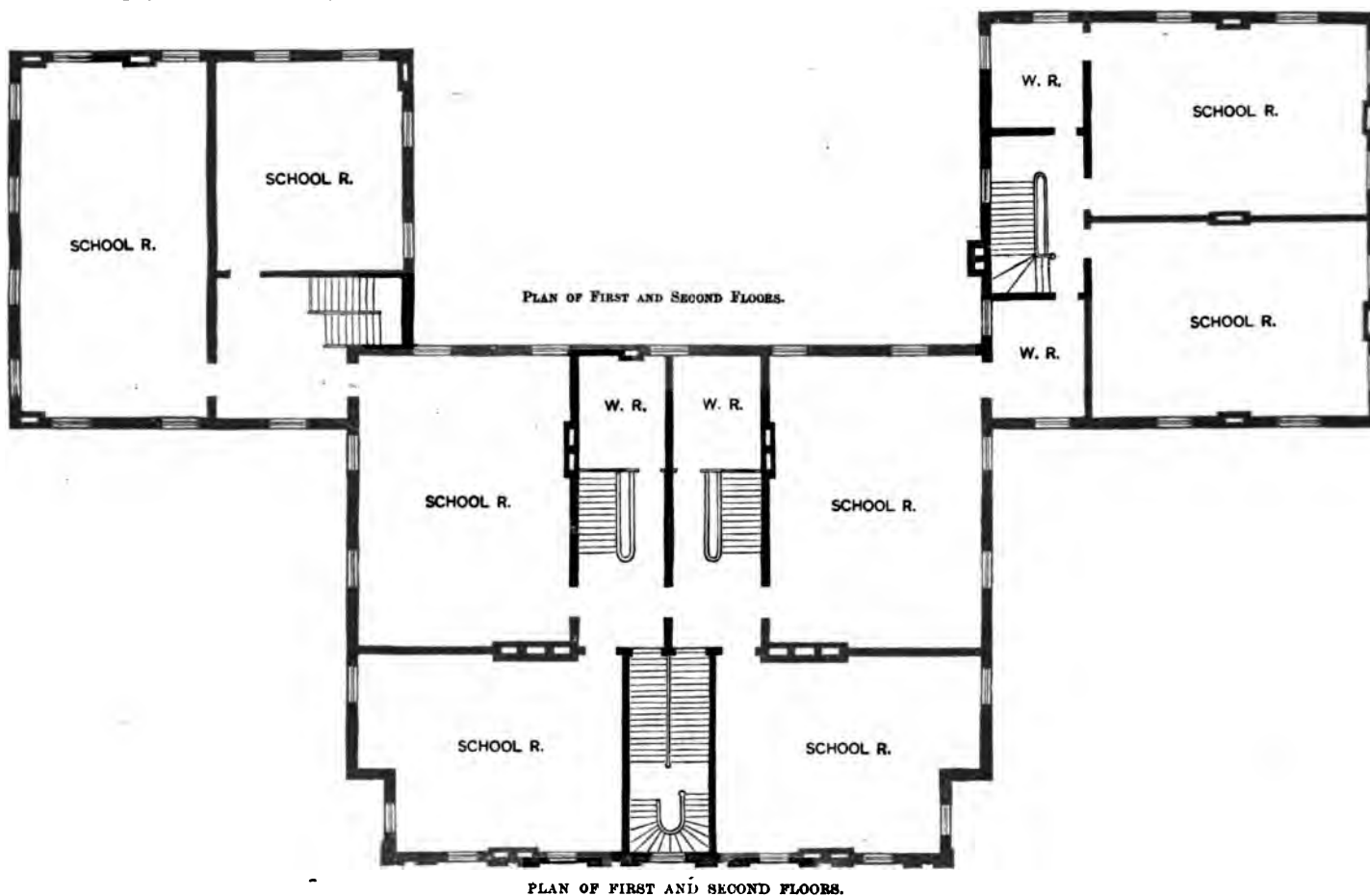
Remember that change is rest.

It will always bring a rich reward of respect to be polite to your pupils. Children relish and appreciate an "if you please" and a "thank you," and it adds to their self-respect, without which there is no true worth. Give your example to your precepts. Children can detect sham as well as grown people, and will often notice inconsistencies in walk and conversation that older people might pass unobserved.—*Iowa School Journal*.

V. Improved School Architecture.

The handsome engraving of a school building which we insert on the first page of this *Journal*, is that of the Wadsworth Street

School in Hartford, Connecticut. The elevation is neat, plain and handsome, and very suitable for a central or superior high school. The interior arrangement, it will be seen on examination, is very convenient. It combines the advantage of a triple building; each one having a direct communication with the other.



We have not been able to procure a plan of the ground plan, but those of the first, second and third floors are inserted.

We are not at all in favour of a three-story school-house. The difficulty and delay of getting-up and down, apart from the fatigue of doing so, would be fatally increased in the event of a sudden panic in the case of fire or other calamity. Besides the incessant noise overhead, and in going up and down the necessarily numerous stairs, is in itself a strong objection to a three-story school-house. In this country, where land is abundant, a three-story school-house is most undesirable, especially as the additional cost required in order to secure proper ventilation more than makes up for the so-called economy of such an erection. The accumulation in one building, where there are so many young and delicate lungs, of quantities of vitiated air is greatly to be deprecated; and this of itself should be considered a sufficient objection, even apart from any improved modes of ventilation which might be adopted. There are many days in the year, both in the extreme sultriness of summer and the cold and fogginess of spring, autumn and winter when even the best system of ventilation will be found unequal to the task of removing impure and providing fresh air, and this difficulty is always greatly increased when large numbers are gathered together in one building on such days.

The combined system of school accommodation illustrated in these plans will be found of great advantage during the winter months and on wet days. It will also be found to promote economy in heating, lighting and supervision.

POISONING BY BAD AIR IN SCHOOL HOUSES.

POISONING OF THOUSANDS OF CHILDREN IN THE PUBLIC SCHOOLS OF NEW YORK.

BUREAU OF SANITARY INSPECTION,

February 18, 1873.

To the Board of the Health Department. Colonel Emmons Clark, Secretary.

SIR—I have the honour to report that, in connection with the recent inspection of public-school buildings and factories, made by the health inspectors, I directed, on the 3rd instant, Dr. H. Endemann, Assistant-Chemist of the Department, to collect specimens of air from a few of the schools and other public buildings, and submit them to chemical analysis for the purpose of determining the amount of carbonic acid and other impurities. This duty he has performed, and I herewith present a brief abstract of his report.

THE AIR IN THE PUBLIC SCHOOLS.

From our public schools Dr. Endemann obtained seventeen samples of air, the examination of which determined the presence of carbonic acid, varying in amounts from 9.7 to 35.7 parts in 10,000; or, in other words, from more than twice to nearly nine times the normal quantity. The ventilation in these buildings is generally faulty, and can be obtained only by opening the windows—a practice detrimental to the health of the children who sit near or directly under them. The following experiment made in the Roosevelt Street School, shows the inefficiency of ventilating flues in the walls unprovided with means for creating an upward current. An examination of the air in one of the class-rooms provided with a ventilating flue was made while one of the windows was opened, and yielded 17.2 parts of carbonic acid in 10,000. The window was then closed, and after the lapse of ten minutes another examination gave 32.2 parts of carbonic acid, or an increase of 15.6 parts. The experiment now became to the teacher and children so oppressive that it was not continued. Dr. Endemann says: "If the accumulation of carbonic acid had been allowed to continue, we might have reached within one hour the abominable figure of 110." The following is a statement of the average result obtained from the several experiments made in each school:

School.	Experiments.	Carbonic Acid.
Elm Street	3	14.6
Roosevelt Street.....	2	19.5
Thirteenth Street, near Sixth Avenue.....	2	28.1
Thirteenth Street, near Seventh Avenue....	2	21.3
Greenwich Street	2	17.6
Vandewater Street.....	2	14.7
Madison Street, near Jackson.....	4	24.2

As expired air contains not only this poisonous gas, but also effete animal matter escaping from the bodies of those present, and in quantities in proportion to the amount of carbonic acid exhaled, it follows that air vitiated by respiration is far more deleterious than air vitiated by the same amount of carbonic acid from other sources;

and as the standard of permissible impurity has been placed by high sanitary authority (Dr. Parkes and others) at six parts of carbonic acid in 10,000 of air, it is evident that the best practical talent should be engaged in designing and perfecting means for securing to our public schools adequate and thorough ventilation.

Respectfully submitted,

C. H. JANES, M. D.,
City Sanitary Inspector.

VI. Miscellaneous.

1. THE BATTLE OF LIFE.

Go forth to the Battle of Life, my boy,
Go while it is called to-day;
For the years go out, and the years come in
Regardless of those who may lose or win;
Of those who may work or play.
And the troops march steadily on, my boy,
To the army gone before;
You may hear the sound of their falling feet,
Going down to the river where the two worlds meet;
They go to return no more.

There is room for you in the ranks, my boy
And duty, too, assigned:
Step into the front with a cheerful grace—
Be quick, or another may take your place,
And you may be left behind.

There is work to do by the way, my boy,
That you never can tread again.
Work for the loftiest, lowliest men—
Work for the plough, adze, spindle and pen;
Work for the hands and the brain.

The serpent will follow your steps, my boy,
To lay for your feet a snare;
And pleasure sits in her fairy bowers,
With garlands of poppies and lotus flowers
Enwreathing her golden hair.

Temptations will wait by the way, my boy,
Temptations without and within;
And spirits of evil, in robes as fair
As the holiest angels in heaven wear,
Will lure you to deadly sin.

Then put on the armour of God, my boy,
In the beautiful days of youth;
Put on the helmet, breastplate and shield,
And the sword that the feeblest arm may wield
In the cause of right and truth.

And go to the battle of life, my boy,
With the peace of the Gospel shop,
And before high heaven do the best you can
For the great reward, for the good of man,
For the kingdom and crown of God.

2. BOYS, READ AND HEED THIS!

Many people seem to forget that character grows; that it is not something to put on, ready made with womanhood or manhood; but, day by day, here a little and there a little, grows with the growth and strengthens with the strength, until, good or bad, it becomes almost a coat of mail. Look at a man of business—prompt, reliable, conscientious, yet clear-headed and energetic. When do you suppose he developed all these admirable qualities? When he was a boy? Let us see the way in which a boy of ten years gets up in the morning, works, plays, studies, and we will tell you just what kind of a man he will make. The boy that is late at breakfast, and late at school, stands a poor chance to be a prompt man. The boy who neglects his duties, be they ever so small, and then excuses himself by saying, "I forgot! I didn't think!" will never be a reliable man. And the boy who finds pleasure in the suffering of weaker things will never be a noble, generous, kindly man—a gentleman.

3. SMOKERS AND NON-SMOKERS.

A comparison made between the smokers and non-smokers belonging to the Polytechnic School of Paris, shows that the non-smokers take the highest in every grade. Further, it is found that the smokers lost grade constantly. In 1861 the Minister of Public Instruction accordingly issued a circular forbidding the use of tobacco by pupils in the public schools. Smokers in America should make a note of these facts.

2nd Class.—Persons of good health and ordinary labour (mechanics, etc.), 18 to 24 oz. of food, equal to 16 oz. of nutriment.

3rd Class.—Persons of sound health, hard labour, and consequent violent exercise, 24 to 30 oz. of food, equal to 22 oz. of nutriment.

THE HUMAN MACHINERY.

A fully-developed man has 60 bones in his head, 60 in his thighs and legs, 62 in his arms and hands, and 67 in his trunk; making a total of 249 bones. Such a frame will contain 15 quarts of blood, weighing two pounds each. Every pulsation of the heart discharges two ounces of blood, which is an average of a hog's head an hour. The united length of the perspiratory tubes is 28 miles, and they drain from the body an average of $3\frac{1}{2}$ pounds of matter per day, which is five eighths of all that the body discharges.

The human body contains over 500 muscles. The intestines are 24 feet in length. The finger-nails grow their full length in $4\frac{1}{2}$ months. A man 70 years of age has renewed his finger-nails 180 times. Allowing each nail to be half an inch long, he has grown 7 feet 9 inches of nail on each finger, and on fingers and thumbs together, a total of 77 feet and 6 inches.

The heart makes an average of 64 pulsations in a minute, which is 3,840 in a hour, and 92,160 in a day. Two-fifths of the oxygen inspired disappears with each inspiration, the place of which is supplied by the carbonic gas thrown off by expiration. Thus each adult person ought to consume 45,000 cubic inches of oxygen every 24 hours, and in the same time he generates 18,000 cubic inches of carbonic acid gas.

Every moment during life a portion of our substance becomes dead, combines with some of the inhaled oxygen, and is thus removed. By this process it is believed that the whole body renews itself every seven years.—*V. V. in Phrenological Journal.*

6. IRISH ELEMENT IN THE ENGLISH CIVIL SERVICE.

The *Saturday Review* commenting on the report of the Civil Service Commissioners, says that one result of the scheme will be that, before many years have passed, the Irish element in the civil service will be by far the strongest. In the last eighteen months two hundred and forty "important appointments have been assigned as the reward of merit to successful candidates." Of these candidates, seventy-five were English, twenty-three Scotch, and one hundred and forty-two Irish. The Commissioners say:—"It may not be uninteresting to note, as resulting from these figures, that there is a great difference in the amount of success achieved by the candidates of the three kingdoms, more than one-half of the successful competitors having been examined in Ireland, less than one-third in England, and less than one-tenth in Scotland; and, further, that while the proportions of prizes won to candidates sent up was in England not quite one out of ninety-one, and in Scotland less than one in twelve, in Ireland it amounted to somewhat more than one out of six."

POPULATION OF THE GLOBE.—There are on the globe 1,288,000,000 souls, of which 360,000,000 are Caucasians; 522,000,000 are Mongolians; 190,000,000 are Ethiopians; 176,000,000 are Malaysians; 1,000,000 are Indo-Americans. There are 8,642 languages spoken, and 1,000 religions. The yearly mortality of the globe is 42,043,000 persons. That is at the rate of 115,200 per day, 4,800 per hour, 80 per minute. Among 10,000 persons, one arrives at the age of 100; one in 500 attains the age of 80; one in 100 to the age of 70. In 100 persons, 95 marry.

VII. Educational Intelligence.

The late English papers bring intelligence of a new experiment at the Normal College at Chichester in the training of "ladies of gentle birth" and high culture in the business of elementary teaching—a work which has heretofore been undertaken only by women of lower social standing. The movement has the official sanction of the Privy Council on Education. We also learn that women are preparing to compete for the mathematical prizes of the universities.

The increasing demand for instruction in the elements of the natural sciences in common schools, makes it important that the subject receive special attention in teachers' institutes.

Boston has sent to the Vienna Exposition thirty large cases of articles, representing the city schools, including the buildings, fittings, furniture, apparatus, books, etc. Supt. Philbrick has been granted a leave of absence for five months, and will make a tour of Europe, visiting the Exposition.

The alumni of Yale College some time ago undertook to raise for the benefit of their Alma Mater a fund of \$500,000, to be known as the Woolsey Fund. One of their number, Mr. James Knox, of Knoxville, Illinois, has just contributed to it \$10,000, which he modestly terms "his mite," and we learn that from all quarters the committee are receiving the most encouraging answers to their appeal. There could not be a more eloquent testimony to Yale than the existence of such a spirit among its children.

It is already known that Mr. Henry W. Sage, of Brooklyn, has presented to Cornell University a sum of \$250,000 for the promotion of female education in that institution, and another sum of \$30,000 for the erection of a university chapel. It is now announced that his son, Mr. Dean Sage, has given \$30,000 to Cornell to establish a course of university sermons by distinguished divines.

The Yale College Laws have been recently revised and republished. Most of the old laws, which have long become dead laws, are omitted, the present including only those which any student may rationally be expected to observe. Five books of the Anabasis, and all of Plain Trigonometry will hereafter be required of candidates for admission, instead of the two books of the Anabasis and the first two of Euclid. The youngest age at which a candidate can be admitted to the freshman class has also been changed from fourteen to fifteen years.

KNOX COLLEGE.—Professor Cavan, of Knox College, Toronto, made the gratifying announcement last month, at the closing lecture of the session, that \$10,800 had been subscribed in Toronto alone towards the erection of new college buildings. There were seven subscriptions of \$1000 each. Since then, we are glad to learn that subscriptions for the re-building of Knox College still come in to a very gratifying amount. In Toronto, upwards of \$20,000 have been subscribed, and a considerable amount more is still expected. The other parts of the Province have not yet to any great extent been canvassed, but wherever Professors Cavan and Gregg have gone, they have met with a most cordial welcome and very gratifying success. Professor Gregg, last week, paid a flying visit to Belleville and Kingston, and received subscriptions to the extent of upwards of \$2,000. More than double that amount may be expected from those two places. In Guelph \$2,007 have been subscribed, and another thousand at least is fully reckoned upon. In Galt \$1,500 has already been promised, and as much more, at any rate, is looked for. A few friends in Mitchell and Drummondville have given \$760 without being solicited, but when these places are canvassed a good deal more will be secured. The state of the fund then, at present, stands as follows:—

Toronto.....	\$20,285
Belleville	675
Kingston	1,480
Guelph	2,007
Galt	1,500
Mitchell	500
Drummondville	260

\$26,707

We understand that Professors Cavan and Gregg—who have taken up the matter energetically and have succeeded so well hitherto in their canvass—purpose to leave immediately for London. They are to preach there to-morrow in the two Presbyterian Churches, and intend to solicit subscriptions in that locality during the coming week. We have no doubt that London will not be behind hand—nor will Hamilton, to which these gentlemen return next Saturday—preaching on the Sabbath, and pursuing their work of canvassing on the following days. The friends of Knox College throughout the country must be very much obliged to these gentlemen for entering so energetically upon this work. No agents that could have been employed could be more acceptable or more successful.—*Globe.*

VIII. Monthly Report on Meteorology of the Province of Ontario.

I. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for MARCH, 1873.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Belleville—J. B. Dixon, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Straug, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—J. M. Buchanan, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., LL.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.													
	Eleva- tion. a		MONTHLY MEANS.				HIGHEST.		LOWEST.		RANGE.		MONTHLY MEANS.				DAILY RANGE.				HIGHEST.		LOWEST.		WARM- EST DAY.		COLD- EST DAY.		MONTHLY MEANS.					
			Above the Lake.		7 A.M. 1 P.M. 9 P.M. MEAN.		Date.	Reading.	Date.	Monthly.	Greatest in 24 hours.	Date.	Mean Maximum.	Mean Minimum.	Mean Range.	Greatest.	Date.	Least.	Date.	Reading.	Date.	Reading.	Date.	Monthly Range.	Date.	Mean Temp.	Date.	Mean Temp.	A.M. 1 P.M. 9 P.M. MEAN.					
	Above the Sea.																																	
North Latitude.	West Longitude.																																	
Pembroke.	45-50 77-10	423																																
Cornwall.	45-0 74-50 137	175	29-7104	29-6800	29-6806	29-6307	30-387	7 a.m.	5	28-765	9 p.m.	1-602	9-03	28-766	30-387	29-680	29-6307	30-387	6	8-0	12	66-5	6	13-4	5	79-9	7	45-50	4	0-93	102	156	127	128
Barrie.	44-25 78-45	59	779	28-80	28-79	28-84	29-596	7 a.m.	5	28-155	1 p.m.	1-441	7-66	38-29	28-81	28-84	29-596	30-75	11-33	25-45	49-8	5	6-20	49-4	7	49-27	7	43-27	4	10-90	104	133	123	120
Peterboro.	44-20 78-25	67	29-7043	29-1802	29-1806	29-1843	29-817	1 p.m.	5	28-478	9 p.m.	1-330	9-42	14-15	19-67	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	6-20	49-4	7	41-10	4	1-33	114	139	132	128	
Belleville.	44-10 77-52	72	307	29-6235	29-5679	29-5785	29-6000	30-233	7 a.m.	5	28-778	9 p.m.	1-454	7-73	24-29	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	6-20	49-4	7	39-03	4	7-20	908	126	114	112	
Goderich.	43-45 81-42		1152	28-1581	29-1311	29-1237	29-1370	29-303	7 a.m.	5	28-498	1 p.m.	1-322	7-62	14-15	19-67	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	6-20	49-4	7	40-03	4	9-16	120	155	144	140
Stratford.	43-25 80-58		1182	28-6294	28-6151	28-6103	28-6154	29-352	7 a.m.	5	27-974	1 p.m.	1-278	7-58	14-15	19-67	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	6-20	49-4	7	45-47	3	1-13	107	141	127	123
Hamilton.	43-12 79-50	90	324	28-5545	29-5203	29-5232	29-5345	30-242	7 a.m.	5	28-333	1 p.m.	1-409	8-06	14-15	19-67	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	6-20	49-4	7	39-73	4	0-13	109	125	123	119
Simcoe.	42-51 80-14	150	716	28-9072	28-9044	28-9036	28-9084	29-025	7 a.m.	12	28-315	1 p.m.	1-310	6-19	17-18	28-9073	28-9036	28-9036	16-0	22-5	47-8	14	6-2	5	50-8	14	44-73	11	5-86	124	173	153		
Windsor.	42-20 83-00		690	28-2403	28-3070	29-3167	29-3214	29-907	7 a.m.	5	28-748	7 a.m.	1-249	6-06	14-15	19-67	34-19	25-15	26-31	38-07	11-91	29-16	43-3	6	5-7	20	15	45-93	3	1-30	121	131	146	

Approximation. d On Lake Simcoe. e Near Lake Ontario on Bay of Quinte. f On St. Lawrence. g On Lake Ontario. h On the Ottawa River. i Close to Lake Erie. m On the Detroit River. n Inland Towns.

STATION.	HUMIDITY OF AIR.		WINDS. NUMBER OF OBSERVATIONS.		ESTIMATED VELOCITY OF WIND.		AMOUNT OF CLOUDINESS.		RAINFALL.		SNOW.		AURORAS.	
	MONTHLY MEANS.		SURFACE CURRENT.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.	
	7 A.M.	1 P.M.	North-East.	South-East.	North-West.	South-West.	7 A.M.	1 P.M.	7 P.M.	9 P.M.	7 A.M.	1 P.M.	7 P.M.	9 P.M.
Pembroke.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Cornwall.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Barrie.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Peterborough.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Belleville.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Goderich.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Stratford.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Hamilton.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Simcoe.	79	76	6	2	1	1	8	10	10	10	10	10	10	10
Windsor.	79	76	6	2	1	1	8	10	10	10	10	10	10	10

a Where the clouds have contrary motions, the higher current is entered here.

b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

e 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Pembroke.—Lunar halo, 8th. Wind storm, 16th, 17th. Snow, 11th, 18th, 20th, 21st, 28th. Rain, 7th, 8th, 15th, 28th, 29th.
 Cornwall.—Solar halo, 4th, 18th. Crows seen. Wind storm, 17th, 21st, 25th. Snow, 3rd, 4th, 11th, 13th, 15th, 16th, 19th, 21st, 23rd, 26th, 27th, 30th, 31st. Rain, 8th, 29th, 30th. First wheeling on 8th. Sleighting again, 19th to 31st.
 Barrie.—Great storm of wind, 15th—16th. Storm of wind and

BELLEVILLE.—Wind storm, 16th, commenced 11 p.m., 15th, almost a hurricane. Snow, 2nd, 3rd, 10th, 11th, 14th, 15th, 16th, 20th—22nd, 26th, 27th. Rain, 7th, 8th, 15th, 29th, 31st.
 GODERICH.—Wind storm, 8th. Fog, 29th. Rain, 1st, 3rd, 8th, 10th, 12th, 18th—21st, 24th—26th, 30th. Rain, 7th, 14th, 15th, 19th, 28th, 29th.
 STRATFORD.—Lightning and thunder, with rain, 15th, 3 a.m. Wind

storms, 7th, 8th, 10th, 23rd, 26th. Fog, 14th. Snow, 2nd, 8th, 10th, 11th, 18th, 20th, 21st, 25th, 26th, 30th, 31st. Rain, 7th, 14th, 15th, 19th, 20th, 28th, 29th. Difference of mean monthly temperature from average of twelve years.—2°. Sparrows seen, 15th.

HAMILTON.—Hawk seen, 14th. Garden phlox peeping out of ground. Wind storms, 24th, 25th. Fog, 28th. Snow, 2nd, 3rd, 8th, 11th, 12th, 16th, 18th, 20th, 21st, 25th, 26th, 31st. Rain, 7th, 8th, 11th, 15th, 19th, 20th, 29th.

SIMCOE.—Wind storms, 8th, 15th, 24th. Snow, 2nd, 26th (great storm). Rain, 3rd, 6th, 7th, 9th, 14th—16th, 20th, 28th—31st. A rainy month, cold and disagreeable. Epizootic prevailed to an alarming extent.

WINDSOR.—Wind storms, 8th, 15th, 20th, 21st, 24th, 25th. Snow, 1st, 7th, 9th, 14th, 21st, 24th—26th, 31st. Rain, 15th, 18th, 29th, 30th.

IX. Departmental Notices.

INTER-COMMUNICATIONS IN THE "JOURNAL."

As already intimated, a department is always reserved in the *Journal of Education* for letters and inter-communications between Inspectors, School Trustees and Teachers, on any subject of general interest relating to education in the Province. As no personal or party discussions have, ever since the establishment of the *Journal*, appeared in its columns, no letter or communication partaking of either character can be admitted to its pages; but, within this salutary restriction, the utmost freedom is allowed. Long letters are not desirable; but terse and pointed communications of moderate length on school management, discipline, progress, teaching, or other subjects of general interest are always acceptable, and may be made highly useful in promoting the great objects for which this *Journal* was established.

SUNDAY SCHOOL BOOKS AND REQUISITES.

Application having been frequently made to the Department for the supply from its Depository of Sunday School Library and Prize Books, Maps and other requisites, it is deemed advisable to insert the following information on the subject.

1. The Department has no authority to grant the one hundred per cent. upon any remittance for Library or Prize Books, Maps or Requisites, except on such as are received from Municipal or Public School Corporations in Ontario. Books, Maps, and other Requisites suitable for Sunday Schools, or for Library or other similar Associations, can however, on receipt of the necessary amount, be supplied from the Depository at the net prices, that is about twenty-five or thirty per cent. less than the usual current retail prices.

2. The admirable books published in England by the Society for Promoting Christian Knowledge, and by the London Religious Tract Society, are furnished from the Societies' catalogues at currency for sterling prices (i. e. a shilling sterling book is furnished for twenty cents Canadian currency, and so on in proportion.) These two catalogues will, as far as possible, be furnished to parties applying for them. Books suitable for Sunday Schools are received from the other large religious societies, Presbyterian and Methodists, and from the various extensive publishers in Britain and the United States, but the list would be too extensive to publish separately.

3. On receiving the necessary instructions, a suitable selection can be made at the Department, subject to the approval of the parties sending the order. Any books, maps, &c., not desired which may be sent from the Depository, will be exchanged for others, if returned promptly and in good order.

NO PENSIONS TO PUBLIC SCHOOL TEACHERS UNLESS THEY SUBSCRIBE TO THE FUND.

Public notice is hereby given to all Teachers of Public Schools, or Teachers of the English branches in High Schools, who are legally qualified Public School Teachers in Ontario, who may wish to avail themselves at any future time of the advantages of the Superannuated Teachers' Fund, that it will be necessary for them to transmit to the Chief Superintendent or Inspector, if they have not already done so, their subscrip-

tions, at the rate of \$5 per annum for each preceding year commencing with 1854, and at the rate of \$4 per annum for the current year's subscription. The law authorizing the establishment of this fund provides, "That no teacher shall be entitled to share in the said fund who shall not contribute to such fund at least at the rate of four dollars per annum." No pension will be granted to any teacher who has not subscribed to the fund, in accordance to the preceding regulations of the Council of Public Instruction; nor can one be granted for any year of teaching for which the subscription has not been paid.

EXAMINATIONS PAPERS IN SETS.

The entire set of Examination Papers for First, Second, and Third Class Teachers, neatly stitched, can be sent free of postage on receipt of sixty cents. Those used in the Normal School during the last and previous Sessions, or those used at the County Examination for Second and Third Class Teachers, can also be sent.

SHEET LESSONS ON GENERAL GEOGRAPHY,

In 13 sheets, 50 cents; or by post, postage paid, 57 cents; mounted on cardboard and varnished, per set, \$3 50.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme	Large Sheets.	The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table		
4. Duties of Pupils		
5. The Ten Commandments		
6. Library Regulations	Small Sheets.	
7. List of authorized Text Books		
8. Merit Cards and their uses		
9. Hints on constructing Time Tables		
10. Departmental Notices		

TABLET READING SHEET LESSONS.

Being the First Book of Lessons in Tablet form, in thirty-three sheets, 75 cents (By post, postage paid)..... Price \$1 00
 Mounted on 17 sheets of thin cardboard " 2 00
 Mounted on 17 sheets of stiff cardboard, varnished. " 4 00
 Mounted on 33 sheets of stiff cardboard, varnished. " 6 00
 The hundred per cent is allowed on those and the Geography sheets.

CANADIAN SCHOOL MAPS AND APPARATUS.

Sets of the two new series of maps of Canadian manufacture are now ready, and can be had, by school authorities, at the Education Depository, Toronto, either singly, in wall cases, or on rotary stands, embracing Maps of the World; Europe, Asia, Africa, and America, of two sizes; the British Isles, Canaan and Palestine, and British North America.

Terrestrial and Celestial Globes, of Canadian manufacture, of the following sizes: *three* (hemisphere), *six*, *twelve*, and *eighteen* inches in diameter, and on various kinds of frames.

NEW SCHOOL REGISTERS.

In reply to numerous applications for Public School Registers, &c., we desire to say that the new edition (including the modifications in the courses of study required by the new School Act) has been sent out to the County Clerks for distribution through the Inspectors. No copies will be sent out direct to individual schools from the Education Department. Trustees will, therefore, apply to the Inspector for them.

THE NEW MAP OF THE DOMINION.

We are glad to state that the new and revised Map of the Dominion will be published about the first part of July.

The long delay and disappointment in the publication of the Map, (which we greatly regret) were caused by the extreme difficulty of getting experienced workmen to complete it.

The publishers in their anxiety to meet the wishes of the Department, inserted advertisements in British, Continental, and American papers for skilled engravers, capable of finishing, in the proper style, this and other maps for this Department; but owing to the recent strikes of all kinds of artisans, and the application of steam to lithographic presses, therefore requiring more engraving to be done to keep them going, skilled workmen were most difficult to obtain. The Publishers succeeded, however, in getting a supply.

The trustees of High and Public Schools, who have sent in their order for the map, will have them sent as soon as possible, either by express to themselves, or (to save expense) in some cases, in large parcels, to the Inspectors.

Due notice will be sent to the different schools when their maps are ready to be despatched.

POOR SCHOOLS IN NEW TOWNSHIPS.

The grants to the Poor Schools in New Townships (the applications from which have been received through the Local Inspector,) will shortly be certified to the Treasury Department for payment to the Treasurers of the Counties concerned. The grant is payable by the Treasurer, on the order of the Inspector, and must be applied solely to the payment of Teachers' Salaries, and not to building or repairing school houses, etc. Grants of old second hand readers and other text books, can be made to Poor Schools on application to the Department.

"OLD COUNTY BOARD" CERTIFICATES.

The question is often asked: "Can the present Board of Examiners recall the old County Board Certificates?" We reply: They cannot recall any of the old County Board Certificates which were given for life, or for a term of years. They can, however, at the proper time, recall those which were given for an indefinite time, or during the pleasure of the Board; that is those which on the face of them clearly show that they were given subject to such recall. The Department has in all cases requested the Board of Examiners *not* to recall these latter certificates *this year*, nor until the supply of teachers is more equal to the demands of the schools than at present.

VALUE AND DURATION OF CERTIFICATES.

The certificates to be awarded under these regulations are:

First Class Certificates, Grade A.

Do. do., Grade B.

Second Class Certificates, Grade A.

Do. do., Grade B.

Third Class Certificates.

1. First and Second Class Certificates are valid during good behaviour and throughout the Province of Ontario; and a First Class Certificate of the highest grade (A), renders the holder eligible for the office of County Inspector.

2. Third Class Certificates are valid only in the county where given, and for three years, and not renewable, except on the recommendation of the County Inspector; but a teacher, holding a Third Class Certificate, may be eligible in less than three years, for examination for a Second Class Certificate, on the special recommendation of his County Inspector.

FIRST BOOK OF EUCLID FOR FEMALE TEACHERS.

Notice is hereby given that the Council of Public Instruction, at a meeting held on the 10th instant, directed that the First Book of Euclid be a subject of examination for female candidates for second and first class certificates, the subject of Domestic Economy being omitted.

This regulation will take effect at the July Examinations, 1873.

Candidates for third class certificates will be required in arithmetic, to solve ordinary questions in simple interest.

SCHOOL PREMISES AND ACCOMMODATION.

We would request the attention of Inspectors to Note a of Regulation No. 4 of their "Duties," in which they are directed to call the attention of Trustees to the condition of the School premises. In many School sections the School-house has been allowed to remain in the same state for fifteen or twenty years and longer, often on a bare open space, or on the road-side unenclosed, without a tree or shrub near by to shade it, or any provision being made by the Trustees for the convenience or health of the pupils, or even for their observance of the decencies of life. The Legislature has wisely decided that this state of things shall not continue, but that, as soon as possible, a remedy shall be applied, where necessary. A reasonable time should of course be allowed to Trustees in all cases to set things right; but in the meantime Inspectors will, we trust, not fail to urge upon Trustees the necessity of complying, as soon as possible, with the provisions of the law on this subject.

THE ACT OF 1871 AND SEPARATE SCHOOLS.

In reply to a question frequently asked, we desire to say that the new School Act and Regulations do *not* in any way affect the Separate Schools. It was not intended to affect them when the Act was passed; and it would be unjust to the supporters of these Schools thus to legislate for them indirectly, and without their knowledge. The Inspectors will, therefore, be particular not to apply the Act, or any of the new Regulations to Separate Schools.

NORMAL SCHOOL FOR ONTARIO.

The next Session of the Normal School will commence, (D.V.) on the 8th of August. Students must be in attendance on that day.

X. Advertisements.

O. J. SHOWELL,

Architect . . . Owen Sound

Plans, Details and Specifications for School-houses, combining all the most modern and improved arrangements. Letters by post to Owen Sound will receive prompt attention.

SHORT ADVERTISEMENTS inserted in the *Journal of Education* for 2 cents per line, which may be remitted in postage stamps or otherwise.

TERMS: For a single copy of the *Journal of Education*, \$1 12 per annum. Back vols., neatly stitched, supplied on the same terms. All subscriptions to commence with the January Number, and payment in advance must in all cases accompany the order. Single numbers, 12 cents each.

All communication: to be addressed to the Editor, J. GEORGE HARRIS, LL.D., *Education Office, Toronto*.

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I. Improved School Architecture.

1. HAVEN SCHOOL—FOURTH FLOOR.

The Haven school-building, Chicago, Illinois, was named after *Luther Haven*, President of the Board of Education of Chicago, at the time of its erection. The building is three stories high, with a basement and attic. The plans here shown are of the principal

story and the attic; the latter of which (4th floor) is 14 feet high in the clear, and contains a hall 66 feet by 38 feet 8 inches, for general exercises of the school, with closets for apparatus, teachers' closets, and wardrobes attached; and a gymnasium in which the female pupils of the school may exercise in inclement weather. Owing to the peculiar construction of the roof, this attic story is quite as serviceable for the purpose for which it was designed, as would have been either of the full stories, and it cost much less.

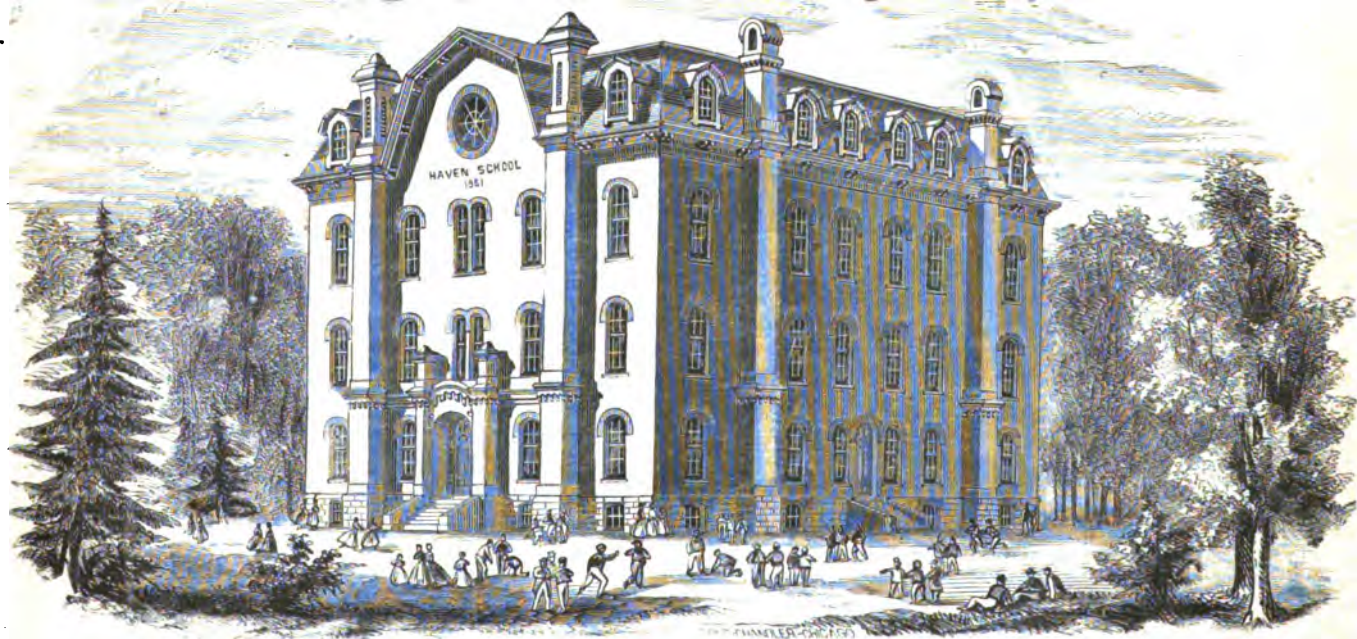
The basement is mainly divided into four large rooms, with corridors and stairways; one of the rooms being used for fuel, and the balance as a place of recreation for the boys in foul weather.

The principal or ground floor has four school-rooms, each having a wardrobe and teachers' closet attached; spacious corridors, with entrances on each side of the house for pupils, and a principal entrance in front. The side doors do not open directly into the corridors but into vestibules, from which other doors open to the corridors, and also to the stairways leading to the basement.

The second and third floors only differ from the first in having windows in place of the outside doors and vestibules of the first floor; and the second floor has a reception or principal's retiring room, about 10 by 20 feet, cut off from that part of the corridor towards the front of the house.

In passing to and from the school-rooms, the pupils will generally pass through the wardrobes. Each of these rooms are wainscoted from the floor about 2½ feet high, and the corridors and wardrobes from 5 to 7 feet, with boards, neatly grained and varnished, (as is all the interior wood-work,) and above this, on each side of the rooms, are black-boards.

The rooms are ventilated through the large ventilating shafts or buttresses in the exterior walls. The building is 68 by 86 feet on the



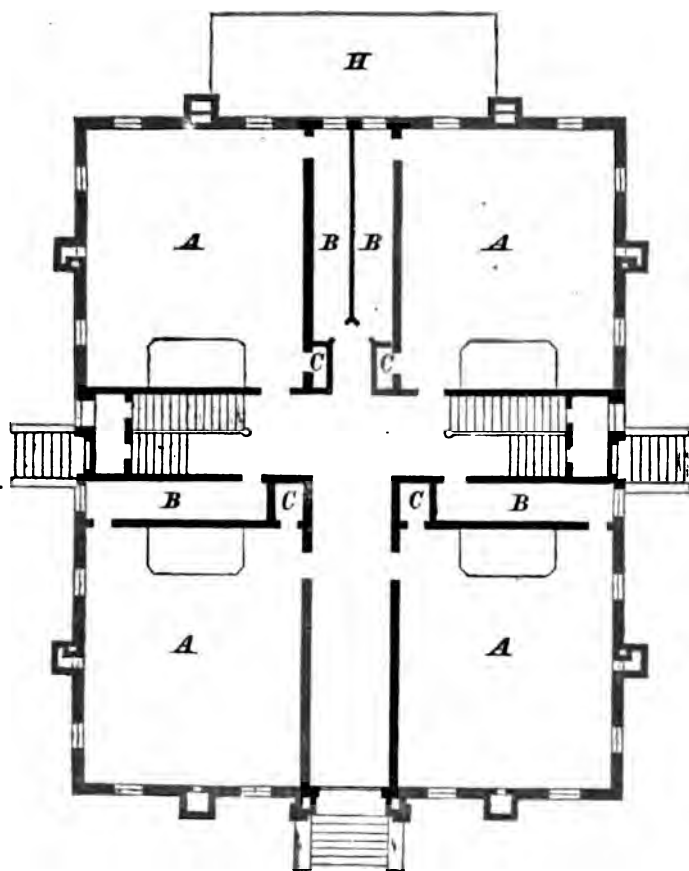
HAVEN SCHOOL, CHICAGO, ILLINOIS.

ground, and each school-room 27 by 33 feet, and thirteen feet high. The exterior is in a plain Americo-Italian style of architecture; is entirely devoid of anything like ornamentation, save in its bold, projecting buttresses which form the ventilating and chimney shafts before mentioned; its deeply recessed doorway in front, with massive buttresses on each side; and its elegant *mansard* roof, the steep, sloping sides which, covered with slate, and pierced with dormer windows, given it altogether a unique and pleasing effect. Externally, the finish of the basement, to the principal floor, is stone. Above

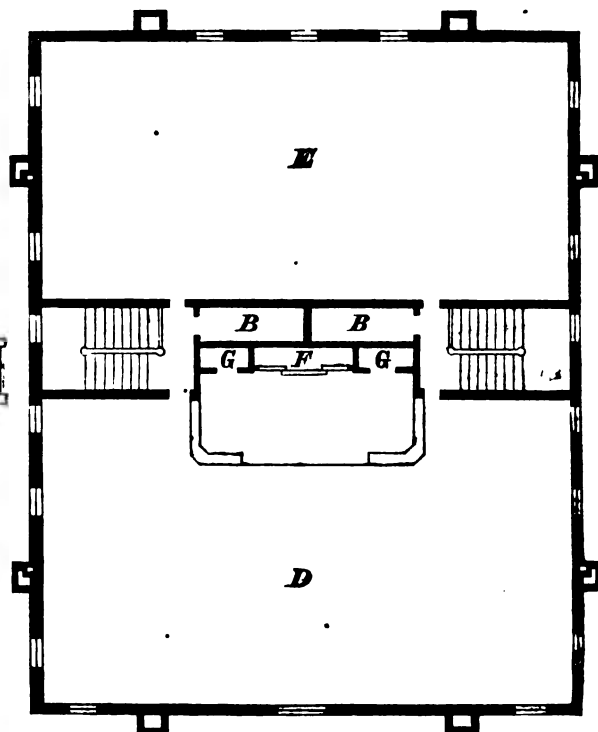
this the building is faced with red, pressed brick, and has stone dressings to doors, windows, buttresses, &c.

The building is warmed by a boiler located in a room at the rear of the building, H, rising no higher than the basement. The whole amount of pipe for the steam is 13,294 feet; there being in each room 161 square feet of radiating surface, or one square foot of radiating surface to 75 cubic feet of air.

The Haven school-building is designed to accommodate 756 pupils.



HAVEN SCHOOL, GROUND FLOOR.



HAVEN SCHOOL, FOURTH FLOOR.

A A A A — School-Rooms.

B B B B — Wardrobes.

C C C C — Teachers' Closets.

2. PLAN FOR REMODELLING THE OLD-STYLE SCHOOL-HOUSES.

The following description of changes to be made according to accompanying plan, as well as the plan itself, from Richard A. Waite, Esq., architect, of Buffalo:

Remove the partition walls of recitation rooms, and part of the rear wall of building, in first, second, and third stories, as shown on proposed plan, making the rear of building the front of school-room.

On first floor, retain the present hat and cloak rooms, but instead of entering from into school-room, enter from hat and cloak rooms.

On second floor, the recitation room in front of building to be converted into hat and cloak room, which is an actual necessity on this floor, making a room four and a half times as large as present cubby over stairs. Continue the stairs from second to third floor, making two exits from each floor, instead of, as at present, three exits from first floor, and only one from third floor.

On a line with the columns in centre of present school-room, form a partition ceiling up to the heights of the back of seats, and hanging sliding blackboards, with sash above same. On a line with present rear wall of school-room, form a partition of sliding sash doors; half way between same and front wall of school-room form same, dividing each floor into five grade-rooms, one 13 feet by 45 feet 6 inches, and four 20 feet by 24 feet. By sliding the blackboards up, and sliding the partition sash doors to side walls, the five rooms are converted into one large one.

The estimated cost of these changes in the internal arrangements, in each of the old-style school houses, is about \$4,000. The economy of instituting this change is demonstrated in the preceding pages.

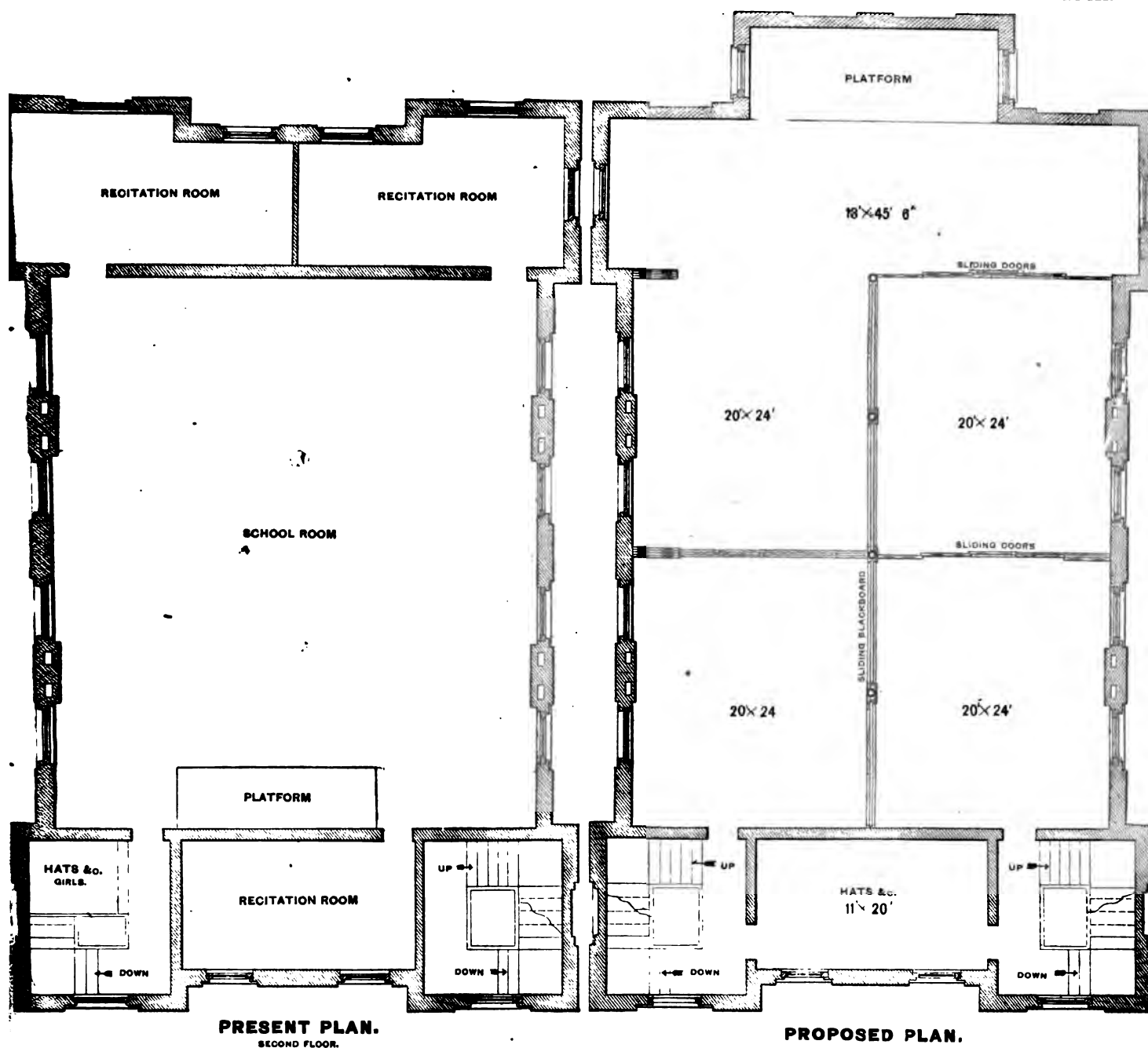
II. Papers on Practical Subjects.

1. EVILS OF OVER-CROWDED SCHOOLS.

One of the crying evils in our educational system is the over-crowding of schools. Seventy or eighty children are frequently put into a room which could accommodate only half the number comfortably, and here they are confined six hours each day for the entire term. The considerations which should induce a different arrangement are many and powerful. Let us look at some of them.

1. *Health.*—Many, nay most, of the primal laws of physiology are daily violated; fresh air cannot be supplied in sufficient quantities for so many beings; the limbs of the scholars are cramped into unnatural positions, and the amount of animal heat evolved is both uncomfortable and unhealthy. It is true some rugged constitutions may pass through with little injury, but think of the frail ones. In many instances the seeds of disease are sown in school, and a life of suffering is the consequence.

2. *Cleanliness.*—The mother's parting injunction in the morning usually is, "Now, keep your clothes clean." In a closely-crowded



school-room this is clearly impossible, and children often suffer from being wrongly blamed.

3. *Neatness.*—All admit the importance of early associations; but habits of neatness and order, no matter how carefully they may be taught at home, cannot be successfully practised in a crowded school-room.

4. *Long Sessions.*—The next consideration is the over-time which pupils must be kept in the school-room in order to give them any instruction whatever. — It is clearly impossible for any teacher competently to instruct a large number of pupils in the six hours usually allotted to them. The aid of older scholars is sometimes called in, but even this assistance fails to render the teaching adequate. We once asked of a parent in the country if the school was not very full. "Yes," was the reply, "but Hannah Jane [the teacher] has the knack of getting along." Now, we submit that no teacher, no matter how much "knack" he or she may possess, can successfully instruct more than a reasonable number of pupils.

If it be possible, then, let this evil be remedied. Never let the school-room be over-crowded; but in localities where it is not possible to grade the school, even there do not crowd in so many pupils that they cannot receive adequate instruction.—E. M'V. MOORE.—*Pennsylvania School Journal.*

2. HYGIENE IN SCHOOL AND SCHOOL HABITS.

The visitor to an average district or primary school can hardly fail to notice the violation of certain very plain rules of health, by both teacher and pupils. The air—especially near the close of the day, when it sometimes becomes almost pestilential—indicates a sad lack of ventilation and much uncleanness of person and clothing. The dietetic habits of the children will inevitably attract attention. They eat before school, at recess, after school, sometimes during school hours—eat pies, doughnuts, fried meat, and other heavy, indigestible food, sure to ruin the health early or late. In so commonplace a matter as "passing the water," the absurdest practices prevail. We have seen a pupil stopped in his reading, to swallow great gulps of water for which he probably had no thirst. The correction of these evils is quite within the teacher's province.—*Michigan Teacher.*

3. DRAMATIC REPRESENTATIONS IN SCHOOLS.

Circular to the Directors of Colleges and Academies in our Diocese.—Salutem in Domino.

I have hitherto tolerated, with much regret and misgiving, the practice of having plays and dramatic representations in our Colleges and Academies.

I was always apprehensive, that those worldly entertainments would give to the pupils an aptitude and taste for the theatre — no inconsiderable evil in itself. Besides, those serious studies, for which children have been entrusted to your care by parents, are very much interrupted in preparing those plays. The pupils themselves, being obliged to be separated from the rest of their fellow-students to practise those plays, are exposed to danger, as well as to lose time from important studies.

The teachers, especially those of religious orders, are more or less secularized and annoyed in trying to infuse into the pupils the spirit of the drama, with attitudes and declamations quite unsuited to them and the pupils entrusted to their care for a real and solid education. Certain parents may be flattered at seeing their children smart and attractive on the stage of a school; but the sensible and prudent would prefer to see their children exhibit proficiency in Geography, History, Reading, Arithmetic, Philosophy, and other branches taught in the Academy.

Only a few of the pupils can be employed in the exercise of a play; and if there be any education to be acquired by it, which is very doubtful, but few can be benefited by it. Correct and elegant reading, so much neglected in schools, recitations, dialogues and speeches well studied and delivered are certainly more improving to pupils, and would please patrons of schools, at these public exhibitions, and be more entertaining than snatched pieces and scenes, even from great authors. I am aware that these theatrical representations are produced in distinguished Colleges and Academies; but I am also aware that distinguished Ecclesiastics and thinking men deplore that any necessity should arise for them.

From those very exhibitions in the Middle Ages, though innocent and religious in the beginning, sprang the theatre of modern times. Many dangerous and evil consequences have arisen from the spirit of the stage acquired in some schools. A very grave responsibility rests with the Prelates of the Church under whose jurisdiction and patronage religious schools exist, to see that piety and purity of morals and solid studies reign in them and all dangers be removed. Teachers have and assume all the responsibilities of pious parents, and they cannot be too careful of the sacred trust confided to their care, for which they must give a strict account. Public schools and Universities became so deteriorated, even in Catholic times, that pious mothers, notably the mothers of St. Thomas of Aquinas, of St. Aloysius Gonzaga, and of St. Francis of Sales, had the greatest repugnance to entrust their sons to them.

No responsibility rests more painfully on my conscience than that of our educational establishments. If in the ages of Faith many became a scandal to the faithful, we must be doubly watchful in our age that our educational establishments, especially those conducted by religious orders, should be as the "field of sweet smelling odour, which the Lord hath blessed" (Gen. xxvii; 27).

Parents must know and be assured that in intrusting their children to the care of religious communities they will be more protected than under the paternal roof. We therefore come to the conclusion that all plays and theatrical representations shall cease in the educational establishments under our jurisdiction.

† JOHN JOSEPH LYNCH,
Archbishop of Toronto.

4. IGNORANCE LEADS TO CRIME.

The moral instructor of the Eastern Penitentiary, Pennsylvania, Rev. John Ruth, makes the following statement concerning the educational relations of the 226 prisoners:

Education sufficient to fit them for business.....	7
Can read, write and cypher.....	98
Can read and write.....	43
Can read only.....	18
Illiterate.....	60
Had good early moral training.....	36
Had no special care taken of their morals.....	190
Went to Sabbath-school.....	49
Did not go to Sabbath School.....	177

To the thoughtful what a story of neglect these figures reveal! But mark well the words of Mr. Ruth in the following paragraph:

In regard to the beneficial results of secular teaching we are not left to conjecture. In this department we have witnessed, year after year, the most satisfactory improvement on the part of those who have been placed on the school list. Many who can only read, write and cypher a little might find great advantage if they could be placed under instruction, but the statistical tables which follow will show that the teacher is already over-taxed. It must be observed that the school books are furnished and the lessons given to the prisoner in his cell, and in this way the teacher can give only from two to four lessons to each pupil during the month, and

from twenty-two to twenty-five lessons during the year. But even with this small amount of instruction incalculable good is accomplished. This is evinced from the fact that those who come to us illiterate, and receive the rudiments of an education, seldom if ever return to prisons, but usually make good citizens. If our teaching force could be augmented, so as to enable us to place under instruction all who really need to be instructed, the security realized against further acts of violence would abundantly justify the expenditure, and the communities from which the recipients came would be insured in good degree from further injury at their hands. Reformation is what the community at large needs in order to be protected.

These are the words of truth and soberness. Weigh those especially which we have italicised. Mr. Ruth is no theorist. He has lived and worked among the prisoners of the Eastern Penitentiary for some twenty years. What he says is worth more than many fine speeches on education from men wanting his experience. We add only this. If education is worth so much when tried in so feeble a way on the hardened prisoners in the Eastern Penitentiary, who can estimate its influence for good when applied skilfully and under favourable circumstances to the tender minds of the young? Then it is almost omnipotent.—*Pennsylvania School Journal*.

5. HABITUAL MODERATE DRINKING.

Sir Henry Thompson, the eminent English surgeon, has added the weight of his opinion and mature experience to the testimony accumulated against habitual "moderate drinking." In a letter to the Archbishop of Canterbury he expresses the conviction that the use of alcoholic beverages is the greatest cause of evil from which the country suffers. "I do not mean by this," he explains, "that extreme indulgence which produces drunkenness. The habitual use of fermented liquors to an extent far short of what is necessary to produce that condition, and such as is quite common in all ranks of society, injures the body and diminishes the mental power to an extent to which, I think, few people are aware of. Such, at all events, is the result of my observation during more than twenty years of professional life devoted to hospital practice, and to private practice in every rank above it. Thus I have no hesitation in attributing a very large proportion of some of the most painful and dangerous maladies which come under my notice, as well as those which every medical man has to treat, to the ordinary and daily use of fermented drink taken in the quantity which is conventionally deemed moderate."

6. LADIES' HUMANE EDUCATION COMMITTEE, MONTREAL.

This Committee, established in connection with the Canadian Society for the Prevention of Cruelty to Animals, is formed for the promotion of the systematic education of the young in the principles of humanity, and by early training to inculcate in their minds the duty of kindness and consideration to all dumb creatures.

With this object in view the Committee has organized a plan of operations similar to that established by the Ladies' Humane Education Committee in London under the presidency of the Baroness Burdett Coutts.

The Committee first desire to obtain the co-operation of the school-masters and mistresses of the Province, and to this end an address will be presented to the Minister of Public Instruction for permission to introduce certain specified text-books into the schools under their control. These text-books are those which are now in use in the schools in England and France.

The Committee will also send an appeal to all the teachers in the Province, requesting them to inculcate the principles of humanity and kindness upon the children under their care, and recommending to their notice the method pursued with eminent success by Monsieur de Saily, a French teacher in Algiers. It is proposed to offer prizes for the best essays on the subject of kindness to animals, to be competed for annually in each school. The Committee will also recommend, as an effectual method of awakening the interest of the young in schools, etc., the formation of small societies for the protection of dumb animals, and particularly of birds, their nests and young. The good objects for which the Committee is labouring can be materially assisted by the ladies of Montreal, who are now invited to associate themselves with the work of the Committee. This is peculiarly a sphere of action in which women's influence can be advantageously exercised, as they have opportunities for awakening and training the sympathies of the young, in families, schools, and charitable institutions. A subscription of one dollar constitutes membership. The money obtained from the members' subscriptions will be expended in prizes, rewards, periodicals, etc., and the necessary expenses of the Committee.

The Committee urgently request heads of families to subscribe either to the *Animal World*, a monthly periodical published by the London Society for the Prevention of Cruelty to Animals (at 75 cts.

per annum), or *Our Dumb Animals*, published in Boston (at 75 cts. per annum), and cause these papers to be read in their families. Both these periodicals can be obtained at F. E. Grafton's. The Committee will place copies of their text-books and of suitable periodicals and pamphlets, etc., gratuitously in all charitable institutions entrusted with the care of boys and girls.

The labours of this Committee are wholly of an educational character, and as such are distinct from the punitive work of the Society to which they are attached.

The ladies trust that when the objects of their Committee become known to the public, they will be enabled to enlist the sympathies of all in its behalf, and they would call upon all to aid them in their labours by instilling in the minds of the young under their charge the duty of kindness, humanity and mercy to all dumb creatures.

ISABELLA ALLAN, *President*.
ANNE McCORD, *Sec.-Treasurer*.

Montreal, June 3rd, 1873.

III. Papers on Practical Education.

1. MODE OF TEACHING READING.

One of the most sensible plans for teaching reading to beginners which we have ever met with, is the following from the *Massachusetts Teacher*:

The object of reading to one's self is to take the sense of what is written; the object of reading to another is to express the sense. To express the sense we must first take it; hence the great importance of oral reading in the schools; its primary object being the expression of the sense, it presents the natural occasion for taking the sense. In teaching oral reading, let the pupil's mind be occupied simply with expressing the sense; let nothing be introduced into the reading exercise which shall tend to exclude thoughts of expression. This is the soul of reading; to secure facility in this should be the object of every lesson, from the first given in the primary to the last given in the professional school.

The process of teaching little children is very interesting and exceedingly simple; and the simpler it can be made, the more interesting will be the process. The lessons should be reading lessons simply, entirely free from spelling, from phonic analysis, and even from the alphabet. The alphabet, spelling and phonic analysis should be early taught, but not as a part of reading. The alphabet and spelling are to be taught as aids to written composition, the phonic analysis for vocal culture.

If the child's first reading book is properly constructed, it will be a guide to the teacher in giving object lessons. The first page of readings will present the picture of an object which can be brought into the presence of the pupils; this object will form the subject for conversation with the pupils. Suppose the first reading lesson to be about a knife. The knife will first be brought into the presence of the pupils, and they will be led to observe the parts or the qualities; if they are led to observe the parts, the exercise may be somewhat as follows:

Teacher (holding the knife in the pupils' presence).—What is this?

Pupils.—A knife.

T.—Here is the word *knife* (putting it upon the board and pointing); what is it?

P.—Knife.

T.—What has the knife (presenting some part, as the handle)?

P.—A handle.

T.—Say, *the knife has a handle*.

P.—The knife has a handle.

T.—Here is the word *handle* (putting it upon the board beneath the word *knife*, and pointing); what is it?

P.—Handle.

T.—What else has the knife (directing attention to the blades)?

P.—Blades.

T.—Say, *the knife has a handle and blades*.

P.—The knife, etc.

T.—Here is the word *blades* (putting it upon the board beneath the word *handle* and pointing); what is it?

P.—Blades.

T.—Point to the word *knife*; to the word *handle*; to the word *blades*; to the word *handle*, etc. (Pupils point.)

T.—Now say what you said before: *The knife has handle and blades*. (Pupils repeat.)

T.—I will put down the little word you say with *knife* (putting the before *knife*, and pointing to the phrase); say, *The knife*.

Pupils repeat, not *Thee knife*, but the phrase, *Th' knife*, as in speaking.

T.—Say again what you said about the knife.

P.—The knife has a handle and a blade.

T.—I will put down the little word you say with *handle* (putting a before *handle*, and pointing); say, *a handle*.

Pupils repeat, not *a handle*, but the phrase *a' handle*, as in speaking.

T.—(Putting *has* with a *handle* and pointing); say, *has a handle*.

Pupils repeat the phrase, *has a handle*.

T.—Say again all that you said about the knife (pointing to the phrase already upon the board).

P.—The knife has a handle and blades.

T.—I will put down the word you say with *blades* (putting *and* before *blades*, and pointing); say *and blades*. (Pupils repeat.)

T.—Point to the phrase *The knife has a handle*; and *blades*; *has a handle*, etc. (Pupils point.)

It may be desirable to present the above in two lessons. Various devices are employed by teachers for fixing the words in the minds of the pupils; similar means should be used for fixing the phrases.

If the above simple lesson is properly arranged in the reading book, the pupils will easily be taught to read it there. Whether the lessons are or are not in the book, the general plan of teaching beginners should be as illustrated.

By this plan the pupils read only what they have first been led to say; what they say is an expression of their own thoughts. By the arrangement of the lessons in phrases, the pupils are led to read, as they speak, in phrases.—GEORGE A. WALTON.

2. SHORT LESSONS.

Shallow acholaship is the bane of this country. We do everything in a hurry, and scarcely take the time to do anything well. Nowhere is this evil greater than in our schools. We hurry our pupils through their books, through their studies, through their classes, through the schools, and into this fast life we are living. We skim the surface of knowledge, but few of us ever dive beneath it. There is not one school in ten in which there are not many children advanced beyond their strength. They are studying things they cannot understand, studying more branches than they can master, studying lessons too long for them to learn thoroughly.

Teachers, make your lessons short. If so, you will have them well learned. Your pupils will come to the recitation in cheerful spirits. They will recite well. They will go from it determined to master the next lesson. They will be eager to learn any fresh matter you may add to that contained in the text-book. They will grow intellectually day by day. If, on the contrary, you must hurry them through the book by giving long lessons, you will have poor, dragging recitations; your pupils will soon either lose heart or health; their zest for study will leave them, and their mental stomachs will refuse to digest the food you cram into them.—*Pennsylvania School Journal*.

Instruction should be as pleasant as ordinary food, and the tastes of children should be cultivated, instead of filling them with dry facts, which they cannot digest. The question is not whether there is more or less book-learning, but whether the child has the opportunity of teaching itself and of acquiring intellectual tastes. To learn reading is not enough: they should be taught to enjoy reading, to delight in the discoveries of science, and to take a pride and enjoyment in history.—SIR JOHN LUBBOCK.

3. THE STIFF, FORMAL METHOD IN SCHOOLS vs. THE LOOSE, SLIPSHOD METHOD.

Go into a school famed for its excellence, and likely you will find the teacher giving attention to the minutest details of conduct and recitation. Such a teacher believes that the formation of habits in his pupils is of the utmost practical importance. He accordingly gives heed to the manner in which his pupils sit in their seats, stand in the class, hold their books, walk across the room, address their teachers, etc., etc. Above all he insists upon their giving attention to the recitation while in the class, or in their quiet absorption of their several tasks while at their seats. He even keeps up the pressure of his supervision upon them in the yard and on their way home, everywhere demanding of them courteous behaviour. Such a teacher will receive an emphatic disapproval from a teacher of an opposite class. "I believe in geniality and good nature, and not so much in stiffness and formality; such a teacher (as the one described) would drive out of a child all the nature he has, and make a machine of him." By this feint he hopes to prevent a dis-

paring comparison with his own school, which if you visit you will find very much tending to the extreme denominated "too easy." On your entrance every eye is turned upon you; both pupils in their seats and those in the class were so little engrossed in their work that they found a stranger more attractive. You will find that the pupils who are reciting do not all pay attention to the recitation after order is restored; that in fact many pupils who should be engaged in study are listening to the recitation. The teacher is very animated in the conduct of his class (apparently more so than he had been before you entered). He addresses his remarks more particularly to the brightest pupils of his class. He is genial and his geniality comes on him by fits. Some days he scarcely feels like hearing the recitation at all; on others he is very animated; he is prone to disregard the regular hours of recitation and lets the programme fall behind, trusting to make it up by extra vigour. There is no fixed system in his own efforts, and consequently his pupils lack it. They do not get into fixed habits of work, and are not attentive to the formalities which make school life run pleasantly and profitably. But their school training is such as to develop, rather than subordinate, their idiosyncracies.

The former of these two types of schools is commonly preferred by school directors and the profession generally; the latter type is often the most popular with the community at large. The newspapers very often attack the former school and show it no mercy. From the standpoint of mere theoretic acquirement, so much attention to details merits rebuke. "That the pupil should sit in this particular position rather than in that, does not help him to understand his lesson any better." "The strength of the teacher and of the pupils is wasted on mere formalities." But the profession makes reply: "No great achievement can be made except by persistent effort, which implies a complete conquest over one's self; hence, the theoretical depends upon the moral. The moral consists in a system of habits, every one of which implies self-denial and a preference of duty over pleasure." If its defence is well-grounded, we are to look upon all of that careful attention to details as contributive toward the formation of correct habits. Without correct habits no great result can be achieved, although brilliant occasional performances may result.—*W. T. Harris, in the Western.*

4. SUGGESTIONS ON TEACHING DRAWING, BOTANY, ETC.

I teach Drawing to my whole school, and this for several reasons. First, because a certain amount of æsthetic culture is desirable for everyone, especially in this country, where there is no saying what position any child may be called to occupy. But, independently of social position, it is desirable. In proportion as we can enkindle and cultivate in our pupils the love of beauty, we refine and ennoble their characters, and this reacts upon their moral sense. It also prepares them to appreciate many a sweet and inexpensive pleasure as long as they live, and opens to them a thousand sources of delight. Is this a trifling boon? Second, in proportion as recitations can be illustrated by drawings upon the blackboard, the pupil's interest in his studies will increase. Let each teacher test that for himself. And, finally, it greatly relieves the tedium of confinement in the school-room, especially for the little ones, and keeps up an unflagging interest, if a teacher only manages it rightly. A person once expressed to me his surprise, that with a pretty large school of all ages, I was able to keep good order without using any kind of corporal punishment. I laughed, and told him that it was by skilful management. It was simply in keeping the scholars interested—nothing more.

The next consideration is, *how* should drawing be taught in our schools? Or, rather, how should it be used as an adjunct to teaching?—for that part is the most important. Select schools are not usually graded, and in my last school I had every age to deal with, from little children of seven and eight up to boys and girls of sixteen years. In the case of my youngest pupils, I encouraged the use of the transparent slate, drawing myself on bits of paper little sketches of familiar objects, to put under the piece of ground glass on which the children drew. Thus they gradually acquired a facility in drawing outlines, both straight and curved. If the teacher has not time to draw the models, any simple wood-cuts will answer, though not as well. I also permitted them to draw on their ordinary slates, setting them a copy as I would do in a writing lesson—such copies as the simplest possible outline of an open book, a spade, a box viewed diagonally, or, in fact, anything that was easy. This delighted the little ones, and kept them from being restless and noisy. As a reward for good conduct in school, I would frequently give them, at the end of a week, a nicely drawn picture of a dog, a horse, a group of rabbits or kittens, or any other favourite animal drawn by myself; and the vivid admiration which these excited tended to stimulate them still more in their own efforts.

At quite an early age I commenced teaching geometry, carefully avoiding, however, the use of that word, calling it indeed a drawing lesson. Drawing certain lines, angles, or any geometrical figures on the slate, I require my young pupil to copy them over and over, until he makes them perfectly. Gradually, and of course entirely without any book, I begin to suggest to him the relations of these lines and angles to each other, and let him work out easy propositions:—beginning, perhaps, with the axiom that a straight line is the shortest distance from one point to another. He looks up doubtfully. I give him a corner of the blackboard, and allow him to try for himself, which he does, carefully measuring the length of his lines with a bit of string fished up from that *omnium gatherum*, as somebody called it—a boy's pocket. After repeated trials he is convinced it is the shortest distance from one point to the other. That lesson is never forgotten. And so with one truth after another, until, without knowing anything of the word "geometry," the child knows much of its elements. My experience of teaching has taught me that, if presented to their minds in the right way, there is no department of study so delightful, so naturally interesting to all children, as that department which includes every branch of Mathematics.

From each member of the class in Geography I required, once a week, a finished map, executed on drawing paper with coloured crayons, of some one of the countries or states which had formed the subject of recitation that week. And, during the recitation each day, some one of the pupils would be called on to go to the blackboard and illustrate the lesson by drawing the outline of some country, or the seaboard line, or the course of some river and its tributaries, or whatever might be necessary. They soon acquired facility in doing this, and of course it gave a living interest to the recitation, and entirely prevented monotony, as the whole class were watching intently to correct possible errors.

In Botany I pursue the same course, requiring some member of the class (taking them by turns) to stand at the blackboard and illustrate the lesson of the day by drawing the flowers or parts of flowers that are under discussion; and every member to draw all the illustrations afterwards in his drawing-book, with the black-pointed crayon.

The very same method applies to Physiology and that elementary part of Anatomy which enters into our school curriculum; only, as these illustrations require to be done more carefully, I allow the pupil who is selected for that purpose to sketch the figures on the blackboard before the class is called for recitation.

A learned professor, addressing one of our teachers' institutes this fall, remarked that our best schools are founded in chalk. All his auditors thought the expression a suggestive one; but few realized, I think, how profoundly true it is. When I began teaching, eighteen years ago, no one dreamed what a powerful auxiliary the blackboard was to become. Now, I do not know of a single study, except perhaps Chemistry, whose recitations may not be illustrated by chalk. Even in the Sunday School this method been introduced.

In giving the now so popular object lessons, some facility in Drawing, on the part of the teacher, is almost indispensable. We cannot always have a specimen of the object we wish to describe; and if, with a bit of chalk, we can create a vivid image of it before our pupils' eyes, the interest of the lesson must be correspondingly greater than where nothing of the kind is attempted.—*Mrs. Canedo, in Michigan Teacher.*

IV. Mathematical Department.

To the Editor of the Journal of Education:

When I penned the brief article on "Interest," my mind was to supplement it with two or three more. Ill health has prevented my so doing. As you seem somewhat to have mistaken the tenor of my former article, a few words in explanation may not be inadmissible.

In the first place, the limits of that article were too brief to do more than expose the error of the present mode without elaborating a new design. Mr. Sullivan has taken up much more space than me, and yet has not advanced any further. The scope of the two articles and their conclusions are thoroughly the same, although the mode of argument is different. Mr. Sullivan and myself agree that there is but one kind of Interest. The Text Books invariably teach that there are two kinds of Interest. Mr. Sullivan, to be sure, still uses the epithet "Compound Interest," but there is no use in prefixing any adjective when there is but a single kind, and consequently I wrote that the terms "Simple and Compound as applied to Interest should be expunged." Had I intended to replace them by any other terms I should have used the word "exchanged" instead of "expunged." Because when one qualifying epithet is re-

jected, why should the other be retained? When there is but one kind of interest, the prefix "Compound" is as much out of place as "Simple." Therefore Mr. Cameron, in requiring the solution of his problem to be given in "Simple Interest," is asking that the solution be rendered in an impossible form.

Mr. Cameron has also fallen into another error which I find to be common to very many; namely, that if a problem can be solved by elementary processes that the converse problem can be solved by elementary processes also. Thus because involution can be done by ordinary multiplication, they tacitly assume that evolution can be done by ordinary division.

Another error which Mr. Cameron has committed is common to him and all those who believe in the absurdity denominated "Annuities at Simple Interest." This mistake is, supposing that an approximation of a function can be used as a basis for an independent construction of another function of diverse form, instead of being applied after the second function has been established from the definitions.

You ask what suggestion would I make as to the mode of teaching Interest. The natural mode certainly seems to me to be to teach the truth that there is but one kind of Interest. Those rules now used under the cognomen of Simple Interest would then be removed from the false position they now occupy of an independent and co-ordinate branch of Arithmetic, to their proper sphere, which is that of being approximations only to the correct and accurate processes of Interest.

Who would think of putting forth Hutton's rule for approximating to the roots of numbers as a separate and independent species of evolution?

H. T. SCUDAMORE.

Sutherland's Corners,
14th May, 1873.

To Correspondents.—"Hygiene" being anonymous cannot be inserted until the name is furnished to the Editor.

INTEREST THAT IS INTERESTING.

To the Editor of the Journal of Education:

A lends B. \$1,000 payable in ten annual instalments of \$160 each; what rate per cent., simple interest, does B. pay?

Several solutions have been given to the foregoing question, all of which I believe to be fallacious. I suggest since this is a problem in *Simple Interest*, that it be worked on Simple Interest principles. At each payment B. pays a part of the principal and the simple interest on that part from the time it was borrowed.

$\$160 = A = P(1+rt)$, in which the formula r is unknown; t varies from 1 to 10, and P also is variable; but $P = A \div (1+rt) = 160 \div (1+rt)$. By substituting the value of t , we have

$$\$1,000 = \left(\frac{160}{1+r} + \frac{160}{1+2r} + \frac{160}{1+3r} \&c. \dots + \frac{160}{1+10r} \right)$$

From this equation, we find by using the rule for approximation that $r = 12.316$ the rate, and in accordance with Sangster's Arithmetic.

WM. S. HOWELL,
Teacher,

S. S. No. 13, Sophiasburg, Ont.

It is time there should be an end to this subject. Now the true equated time for all the payments, and free from all the objections to the common rule for the equation of payment, is 5.2319+ years, and the rate at simple interest is 11.4681+. Any objections to this shall be answered by private correspondence. In the future numbers of the *Journal* will appear the solution of the questions proposed by me.

MATHEMATICAL EDITOR.

Address in future, A. Doyle, Ottawa, Ontario.

V. Biographical Sketches.

1. THE LATE SIR G. E. CARTIER.

(From the Globe.)

Sir George Cartier's career presents several remarkable phases of character well worthy of remark. Throughout his whole career we find him always distinguished as an enthusiastic supporter of the special claims of his French-Canadian countrymen. The love of his own race was, next to his personal ambition, probably the strongest characteristic of his career. He displayed it in the part which he took in the rebellion, and, afterwards in the desperate struggle which he made in opposition to the claims of Upper Canada for representation by population. * * *

That Sir George Cartier, in his management of the affairs of Quebec, and indeed of the whole of Canada, used corrupt means is unquestionably but too true. We should set at naught historical truth if we did not state the fact. His legislative measures and his appointments to office were far too often guided by personal or corrupt party reasons. But he nevertheless retained in his personal intercourse a degree of straightforwardness and candour which commanded respect. He would, doubtless, have excused his errors on the ground that he was contending for what he considered the sacred rights and privileges of his countrymen, and that in purchasing support in Upper Canada he was only doing what was needful to check the encroachments of the people of the west.

Sir George Cartier was free from some prejudices which animate large sections of his French fellow-countrymen. While devoted to their interests he was extremely fond of English institutions and of English people. We believe that he looked forward to spending the evening of his days in the British capital under more favourable circumstances than those which marred the fulfilment of his wish. His attachment to the empire was not therefore the result of selfish considerations, but sprang from personal feeling, and although many of the measures to which he gave his countenance were far from beneficial to the Dominion of Canada and its connection with the British Empire, there is no doubt that he heartily desired the welfare of both. * * * For many years in the receipt of a large income, he was liberal in his expenditure and generous in his hospitality almost to a fault. He will probably be chiefly remembered in Lower Canada by the part which he took in the abolition of the seigniorial tenure, and by what he himself considered his crowning work, the codification of the law of that Province. In Upper Canada he will be remembered, if not as a friend, at least as a not ungenerous foe, with whom it was necessary to contend, but for whose courage and straightforwardness it was possible to retain a large amount of respect.

(From the Mail.)

Sir George Cartier was one of those men who are so constituted as to love power for power's sake. He valued it for its social advantages, and for the opportunities it afforded him of exercising authority and rule. He rarely abused his privilege. Generally he was one of the most approachable of Ministers, and his gruffness was more apparent than real. In the House it was often said of him that he was a better lieutenant than captain. He was certainly more frequently the former than the latter; but in this respect he felt, in common with all the other public men of the country who have come in contact with him, that it was no dishonour to continue to serve under one of Sir John Macdonald's remarkable talents and extraordinary ability. There was a fear that Sir George Cartier's dogmatic way, his "I-say-so-and-it-must-be-done" manner, would not be in place in the first Minister. It is undeniable, however, that during Sir John Macdonald's absence in Washington in 1871, Sir George led the House of Commons with great adroitness and with consummate ability, greatly disappointing many of his friends, who rather dreaded his bluntness when brought into play in the highest parliamentary position in the country. It is quite probable that had Fate so decided his place, he would have led the House with far more success than many persons not unfriendly to him have been willing to give him credit for.

(From Le Nouveau Monde, translated for Witness.)

The epoch of Mr. Cartier's great power was also that of his first faults which were to become fatal. The feeling of invincibility made him forget the source whence he derived his strength. He did not remember that if he had become the chief of Lower Canada it was precisely because he had identified himself with the Catholic cause, that he had devoted himself as the defender of the Church, and that he had never feared to avow himself eminently Catholic, and a submissive child of the Church. From 1865 he had taken an active part in the difficulties excited by the affair of the dismemberment of Montreal Parish, and had impelled his organ and his friends into a path of opposition and pitiful persecution which has ended in so deplorable a manner for him.

The attempt he pursued with so much perseverance to counteract the projects of his Bishop and procure the annulment of canonical degrees by the civil tribunals, destroyed the confidence of the Catholics, and initiated the ruin of the colossus. This fault was crowned by the abandonment of the Catholic cause in New Brunswick in 1871, and if it were desired to ascertain the harm Sir George did to himself and party, it is sufficient to compare the result of the elections of 1872 with those of 1867.

The death of Mr. Cartier is a great political event; it may seriously affect the future of the party which for twenty years he led to victory. It is not too much to affirm that he leaves no one to take his successorship who enjoys the influence, prestige and consideration which he was able to inspire by his great political quali-

ties, but chiefly by the frankness of his character, the force of his will, his fidelity to his friends, and the blind and fanatical confidence they had in him. For one of his errors was to surround himself with mediocrities, and in preference to favour those who in any case could not give him umbrage. He saw too late the fault he had committed, and he had not time to repair it completely.

(From N. Y. Witness.)

His whole life was spent in keen party warfare, and yet he was one of the best natured and most genial men. He was an excellent human specimen of a game cock, and he did not take the comparison amiss, as he was, though a patriotic Canadian, an intense Frenchman, and the cock was the old Gallican emblem. He was ready at any moment to spring with the utmost pluck to any encounter, and he was as persevering as he was prompt.

Though he ruled for a long time (for he was really the ruling spirit in Canada) by corruption, he kept his own hands clean. His ambition rose far above pecuniary gain, and it must be allowed by one who opposed him through his whole career (except when he was in the right) that his ambition was more to make Canada a great empire, and the French portion of it very influential, than even to raise himself personally. He was placable to his political enemies, or rather did not appear to feel or care for their opposition, and he never forgot a political friend, however unworthy.

The French-Canadian members of Parliament, or at all events a great majority of them, were so completely at his beck, that they were familiarly called his *moutons*, and by their solid vote they gave him the controlling power of the Legislature.

Sir George fought against the British Government when a youth in 1837 and was for a season outlawed, but like several others of the so-called rebels who were not shot or hanged at the time he afterwards rose high in the Government of the country, and favour of the Queen.

In company Sir George was as jovial as a school-boy, and a capital singer and actor of Canadian boat songs.

With all his faults Canada will miss him, for he was a great leader though a little man, and an enterprising, far-seeing and patriotic statesman. The solid body of French-Canadian voters with a more fanatical leader might have proved a very dangerous element.

2. THE HON. JOSEPH HOWE.

Mr. Howe was born in the North-west Arm, Halifax, in 1804, so that he had almost reached the allotted age of three score years and ten. He came from a hardy loyal stock. "During the old times of persecution," said he in one of his speeches, for Mr. Howe like many other great men was fond of talking about himself, "four brothers bearing my name left the southern counties of England, and settled in four of the old New England States. Their descendants number thousands, and are scattered from Maine to California. My father was the only descendant of that stock, who, at the Revolution, adhered to the side of England. His bones rest in the Halifax churchyard. I am his only surviving son." He had but few opportunities for education when a lad, having to walk two miles to get to school in summer, and being kept at home in winter. But his father was a man of culture, and charged himself, as far as time would permit, with his education. At the age of thirteen he was apprenticed to the printing business, and during his apprenticeship developed those talents for literary composition which have since distinguished him. He contributed to the press, over anonymous signatures, a number of pieces in prose and verse during his apprenticeship. In 1827 he purchased the *Weekly Chronicle*, changing its name to the *Acadian*, and commenced his regular connection with the press. Two years afterwards he disposed of his share in the *Acadian*, and purchased the *Nova Scotian*, which he continued to edit until 1841. During the early months of his editorial career, he paid but little attention to politics. But those were stirring times, and an ardent nature like his could not long keep aloof from the all-engrossing questions of the day. Having once entered upon political discussion he became an earnest and vigorous opponent of the abuses by which he found himself surrounded. The result was a libel suit on the part of the Magistracy of Halifax. Mr. Howe always took pleasure in telling the story of this suit. He was as yet comparatively little known, and his powers as a speaker were not even suspected. When he received the writ he consulted two or three professional men, but they all shook their heads, regarded the case as a decidedly bad one, and advised a retraction and apology. Young Howe, however, felt that to retract would be to destroy his influence in the future. He knew he was right; that the cause in which he was battling was the cause of popular freedom, and he resolved to brave all consequences. The result we give, from memory, in his own words, as he related the story some ten years ago to the writer of this article:—"If you cannot undertake

my defence with hope of success, will you lend me your law books treating of the question of libellous publications? I got the books, locked myself up for nearly seven weeks for study, taking no exercise, and abstracting all the time possible from business. Then came the sittings of the Court. On the afternoon before the trial, I abandoned myself to a long tramp near the water's edge, and to fresh air. And on the morning of the eventful day I took my seat, dressed in the unusual garb of a black suit, among the lawyers within the railing, not much concerned at the evident amusement I created. The case was opened; the Crown officer made out a terribly hard case against me; the publication was proved, and I was called upon for my defence. I had had time to scan the faces of the jurymen during the proceedings, and had placed myself on tolerably good terms with them. I opened my address and was pleased to find that I at once challenged attention; as I proceeded with my plea of justification, which was the popular wrong which had been committed and the popular right to be vindicated, I saw a tear steal from the eyes of two or three of the jury, and I felt myself safe in their hands. My address occupied some hours in the delivery, and when I sat down the burst of applause from the crowded court room, which no threatenings of authority were able to suppress, told me my case was won, if I could only get a decision before the impression had time to wear off. I was horrified to find, then, that neither the Crown officer nor the judge was willing that I should have this advantage, and the Court adjourned. Next morning the Attorney-General delivered a tremendous philippic against me, and the judge in his charge uttered one scarcely less terrible. But it was no use; the jury, with scarcely any delay, brought in a verdict of acquittal; the people carried me on their shoulders in triumph from the Court House, and at the next election returned me as their representative from the County of Halifax."

Mr. Howe remained a member of the Legislature of his own Province, without intermission, until 1863, representing, during that time, Halifax, Cumberland and Hants. He laboured with untiring zeal and with wonderful tact for the establishment of responsible government, and to him, perhaps, more than to any other single man, was due the change in the colonial policy of the Empire. He was the recognized leader of the liberal party in his own Province. And while waging the most uncompromising warfare against the colonial policy of the Empire, and the maladministration to which that policy had given rise, he never uttered a disloyal sentiment, or spoke a word which could by any process of perversion be construed into an attack upon British connection. Thoroughly liberal and popular in his opinions, he was an Imperialist of the most decided character. He held, as a first article of political faith, the greater union of the Empire, by the representation of the Colonies in the great Parliament at Westminster; and to his latest hour he never swerved from the opinion that the best interests of the British nation would be subserved by such closer union.

Mr. Howe was known personally to old Canada by his earnest advocacy of the Intercolonial Railway, and by his speeches in that behalf in 1849. His great speech at Detroit, on the subject of the reciprocity treaty in 1865, won for him renewed applause from the people of this and the western Province of the Dominion, and stamped him as the most vigorous orator at that important gathering of the leading commercial minds of the continent. His opposition to the scheme of Confederation in his own Province, made his name familiar in the late political discussions in this country; and the almost entire sweep of his own Province against the scheme, electing eighteen out of the nineteen members to the first Parliament of Canada against it, was a striking proof of his power and popularity. In the presence of an accomplished union, having regard to the future interests of Canada, he consented to submit the grievances of which he complained on behalf of his Province to the fair consideration of the Government, and an arrangement was made by which the people of Nova Scotia were satisfied. Mr. Howe was then offered and accepted a seat in the Cabinet. He has been charged with having sold himself for this position. A greater slander could not be uttered. Whatever faults Joseph Howe had, and being human he was not without them, he was not mercenary. In a long career of public usefulness, he has never been charged with the crime of having an itching palm. He laboured hard in his country's service, and with talents which might have made him rich, he has died a poor man. He entered office at the pressing solicitation of the Government. Having expressed himself satisfied with the re-arrangement of the financial terms, so far as they affected Nova Scotia, it was right that he, the leader of the Anti-Confederates, should show his good faith by accepting office and thus giving a guarantee to the country that the agitation was at an end, and to his friends that their interests were safe in the hands of a government of which he was a member. It was practically the same motive which induced Sir John Macdonald in 1864 to insist upon Mr. Brown taking a seat in the Cabinet, and the position was

accepted by the veteran Nova Scotian in the same spirit as by the Upper Canada Clear Grit Leader. When he returned to his county for re-election, he was met by the bitterest opposition, and he contracted in that contest the disease which has finally carried him off. He lived long enough to find himself elevated to the highest position in his native Province, and that by the common consent and amid the warmest congratulations of men of all parties. Unfortunately he has not lived long enough to enjoy, for any time, his well-won honours. He has gone from us, leaving upon the history of his country the stamp of his energy, ability and patriotic devotion, and bequeathing to his friends the record of a long and laborious life spent in the interests of his fellow-men.

We give the following particulars concerning the deceased statesman from Morgan's Parliamentary Companion:—

“Family originally came from the southern counties of England during the old times of persecution, and settled in the New England States. Son of the late John Howe, a loyalist, formerly of Boston, Mass., where, at the revolutionary era, he conducted the *Massachusetts Gazette* and *Boston News Letter*, and latterly of Halifax, where he held the office of King's Printer and Postmaster-General for a lengthened period; and brother of the late Asst.-Com. Gen. Howe. (See Sabine's *Am. Loyalists*.) B. on the North-west Arm, Halifax, N.S., 1804. Ed. by his father. M., 2 Feb., 1828, Catherine Susan Ann, only daughter of Capt. John McNab, Nova Scotia Fencibles. A Governor of Dalhousie College, Halifax, and of King's College, Windsor; a Vice-President of the N. S. Historical Society, and President of the Mechanics' Institute, Halifax. Was for many years a prominent journalist in Nova Scotia; editor and proprietor of *The Acadian*, Halifax, from 1827 to 1828, and of the *Nova Scotian* from the latter year until 1841, when he retired from the press for a brief period, but returned in 1844, and edited the *Nova Scotian* and the *Morning Chronicle* from that time until 1856. Was Speaker of the Legislative Assembly, N. S., 1840-1; Indian Commissioner, (without salary or commissions,) 1841-2; Collector of Customs, Halifax, 1842-3; a member of the Executive Council, N. S., from 1841 to 1843, from 1848 to 1854, and again from 1860 to 1863; Provincial Secretary from 1848 to 1854, and from 1860 to 1863; Chairman of Government Railway Board from 1854 to 1856; British Fishery Commissioner, from 1863 until the abrogation of the Reciprocity Treaty with U. S., 1866; and British Commissioner with Hon. Messrs. Gray and Ritchie, to enquire into the tenure of lands in P.E.I., 1860-1. Was leader of the liberal party in N. S. for many years previous to the Union; and of the Anti-Confederate or Repeal party of that Province, for some time after that event. Delegate to England to promote the construction of the Intercolonial and European and North American Railways, in connection with a policy of systematic emigration, 1850-1; to Canada, with Mr. Chandler, with reference to Intercolonial Railway, uniform postal rates, and protection of fisheries, 1851; to England to promote N. S. Railways, 1852; same place to secure money for their construction, 1855; on particular service in U. S., 1855; again to England with Messrs. Tilley and Vankoughnet to obtain aid for Intercolonial Railway, 1861; again to England with Messrs. Tilley, Sicotte and Howland to arrange terms of Imperial guarantee for the same road, 1862; to Detroit Commercial Convention, of which he was Vice-President, 1864; and to England, 1867, and again in 1868 to secure a repeal of the Union of N. S. with Canada. Holds a patent of rank and precedence from Her Majesty, as an Executive Councillor, N.S. Declined a seat in the Privy Council of Canada, 1868. Sworn of the Privy Council, and appointed President of that body 19th Jan., 1869, in which office he remained until appointed Secretary of State for the Provinces, and Superintendent-General of Indian affairs, 19th Nov., same year. Is author of *Responsible Government*; a series of letters addressed to Lord John Russell (Hal., 1839); Letters to Lord John Russell on the Government of British America (Lon., 1846); Letters to Earl Grey (do., 1850); Speech delivered at Southampton on the Importance and Value to Great Britain of her N. A. Colonies (do., 1851); A Letter to Hon. Francis Hincks, being a review of his reply to Mr. Howe's speech on the Organization of the Empire (Hal., 1855); Letter to Right Hon. W. E. Gladstone, defending his conduct as Agent of the Imperial Government under the Foreign Enlistment Act (Lon., 1856); Letter to the Right Hon. C. B. Adelerly, M.P., defending British Americans in relation to their military organization and achievements (do., 1863); Shakespeare, an oration (Hal., 1864); Speech at International Commercial Convention at Detroit (Ham., 1865); Confederation considered in relation to the interests of the Empire (Lon., 1866); The Organization of the Empire (do., 1866); An Address before the Young Men's Christian Association (Ottawa, 1872); and of many other public pamphlets, speeches, lectures and addresses. (See the Speeches and Letters of the Hon. Joseph Howe. Edited by Wm. Annand, M.P.P., Boston, 1858.) Sat for Halifax Co. in N. S. Assembly from 1836 to 1851; for

Cumberland, from 1851 to 1855; and for Hants, from 1856 to 1863. The establishment of Responsible Government in the B. A. Colonies and of the liberty of the Provincial Press; the Union of British North America, and the construction of the Intercolonial Railway; the Incorporation of Halifax, and the introduction of municipal institutions in N. S.; religious equality; free trade with open out-ports; electric telegraphs and railways as Government works; and the improvement of education and defence, are some of the Constitutional and legislative achievements of the hon. member. First returned to Commons for present seat at g.e., 1867; re-elected on his appointment to office, and again, by acclamation, at last g.e.

3. HON. ASA A. BURNHAM.

. Deceased was very extensively known throughout the old Newcastle District, and was highly esteemed by all. He had filled many local positions, and was identified with and an active member of all societies having for their object the development of his country. In 1851 Mr. Burnham was elected to the Legislative Assembly for Northumberland; in 1863 he was returned for the Newcastle District to the Legislative Council, retaining his seat until 1867, when he was appointed, by royal proclamation, a life member of the Senate. He was a careful and useful member of that body, and possessed great influence with his colleagues. Politically, deceased was a staunch, consistent Conservative, holding liberal views.

4. MR. JOHN SHEDDEN.

We have this morning the painful duty of recording the death of Mr. John Shedden, under very distressing circumstances, the deceased being fatally injured by being crushed between the rear car of a train on the Toronto & Nipissing Railway, and the platform at Cannington Station. Mr. Shedden was President of the Toronto and Nipissing line on which the accident occurred. He was for some time a director of the Toronto, Grey and Bruce line, but had resigned and subsequently undertook a contract for the extension of that line. He was the contractor for the large new Union Station now being built at Toronto and nearly completed. He was also the owner of the Elevator at that point, which was some years ago burnt down, but immediately rebuilt by Mr. Shedden. Although owning a house and residing in Toronto, Mr. Shedden spent a great deal of his time in Montreal, and was known almost throughout the whole country, having establishments in Buffalo, Detroit, Brantford, Sarnia, Toronto and Montreal. He came to this country about 20 years ago, and was for a short time engaged in the construction of a railway, we believe, in Virginia. After about 12 months spent in the Southern States, he came to Hamilton, and in partnership with Mr. Wm. Hendrie, undertook the cartage agency of the Great Western Company, which they conducted for some years. They also for a time did the cartage business of the Grand Trunk Company in Toronto. Subsequently they dissolved partnership, and Mr. Hendrie took the Great Western Co.'s cartage business, and Mr. Shedden that of the Grand Trunk Company. When Mr. Shedden undertook the agency of the Grand Trunk Company in Montreal he had serious difficulties to contend with, but persevered in the face of all opposition until, perhaps, there were few men more popular with the business community to whom he was known. If an attempt were made to-day to abolish the cartage system as conducted by Mr. Shedden for the past few years, that would be as much opposed as was the introduction of the system. Mr. Shedden was the owner of a couple of farms near Toronto, and leased one near Montreal. He encouraged the breeding of pure stock by importations from England, which he made at considerable cost. He was a man of very great energy, and whatever he undertook he performed satisfactorily. He was greatly beloved by all the friends who knew him intimately; was generous and liberal, always ready to give his support to any worthy object or undertaking. He was, although unostentatious, most liberal in entertaining his friends and acquaintances. Mr. Shedden was a native of Ayr, Scotland. He came to this country comparatively poor, but through his energy, industry and perseverance amassed a large fortune.—*Montreal Gazette*.

5. LIEUT.-COL. SIMPSON.

The *Kingston News*, in reference to the death of Lieutenant-Colonel Simpson, states that the deceased came to this country in 1814, and on the arrival of Lord Dalhousie as Governor-General of Canada, was appointed his private Secretary. In 1822 he was appointed Collector of Customs at Coteau du Lac, and was subsequently elected member for the then County of York to the House of Assembly of Lower Canada. In 1841, on the union of the Provinces of Upper

and Lower Canada, he resigned the Collectorship of Coteau du Lac, in order to enter Parliament, as by Statute Collectors of Customs were prohibited from sitting as members. After the close of the first united Parliament Col. Simpson was appointed Commissioner of the Intercolonial Railroad, and finally was appointed on the Commission for the payment of rebellion losses.

6. REV. FATHER DESMET.

The death of Father DeSmet, the celebrated Catholic missionary to the Indians, is announced in the St. Louis papers. He died in that city on Friday last at the age of seventy-two. He was a native of Belgium, but had resided in that country fifty-two years. Since 1838 his time had mostly been spent among the Indians, and his zeal and disinterestedness have been recognized by men of all religious beliefs, by both the civil and military authorities, and what is more conclusive by the Indians themselves. He dwelt among the most distant tribes, such as the Flatheads and others of Oregon, for years; was always treated with kindness and respect and welcomed with delight on his return. He crossed the plains and mountains many times in his labour of love, and in 1859, being then fifty-eight years old, he descended the Missouri 2,400 miles, from Fort Benton to Omaha, in an open skiff. He was beloved in life and is honoured in death.

7. THE REV. RALPH MORDEN,

Father of Dr. Morden of this city, died suddenly at his residence, Petersville, yesterday morning, at the advanced age of seventy-six. He came from Dundas to reside in Middlesex in 1817. Being old U. E. Loyalists, he and his brother William were granted 200 acres of land each, on the 5th Con. of London Township. He has resided there some 56 years. He was a zealous member of the Methodist Episcopal Church, and ordained as a minister of that body, although he never left his farm to occupy any station. He was the eldest of a family of ten, only three of whom survive him. He served in the rebellion with credit. He was among the first of his denomination here to repudiate the habit of shaving, and was called before the Conference to answer for this peculiar offence, but insisted on maintaining his principles, and had not used a razor for the past twenty years.—*London Free Press, 7th inst.*

VI. Papers on Education in Various Countries.

The Universities of Oxford and Cambridge have jointly arranged with the authors of the Revised Version of the Scriptures to purchase the copyright of their work and to print and publish the same; and the expenses are to be borne by the Universities in equal shares. The British Committee, who have already finished the first revision of the Pentateuch and the three first Gospels, furnish the American Committee with a printed copy of their work for farther considerations and suggestions. The latter meet in New York two days in every month for united study and consultation. When the work has been gone over in this manner, the Committee will meet in London to act finally on disputed points; but as already stated, it will be a number of years before the Revised Scriptures are published.

A Greek lately deceased in Varna left a considerable fortune to Greek educational and charitable institutions. The sum of \$2,500 is devoted to two scholars, to be sent to Mount Athos to catalogue the manuscripts in the monastery there, with a provision for printing. And another sum of \$500 is given as a prize for a history of Varna, from the days of King Lysimachus to 1860.

Rev. C. Hammond, Superintendent of Middletown, has a preparation for making blackboards that works so well, and costs so little, that we asked permission to print it for the benefit of our country school trustees. The following is the recipe for its preparation:

Extract of logwood $\frac{1}{2}$ lb., dissolved in 5 gallons of hot water; add $\frac{1}{2}$ oz. bichromate of potash; strain and bottle.

Of this consistency, it is adapted for writing fluid. It should be made with less water for blackboards, and applied with cloth to smooth, white wood.

A Nautical School is to be established in New York, under the charge of the Board of Education, in connection with which the "Street Arabs" are to take short cruises in search of useful knowledge. The expenses are to be defrayed this year by special tax of fifty thousand dollars, and, subsequently, from the regular educa-

tional funds of the city. The experiment will be watched with considerable curiosity, as Massachusetts has previously made a similar trial and abandoned the undertaking.

Education has of late received some tangible proofs of interest. The State of Illinois has appropriated one million dollars for a general school fund; Oakes Ames has given fifty thousand dollars for the benefit of a school district in Easton, Mass.; and Chief-Justice Chase has left twenty thousand dollars to two educational institutions.

PENNSYLVANIA.—Before the year closes Pennsylvania will probably have ten State Normal Schools. The State appropriations for these schools now amount to \$284,815.12.

The United States Commissioner of Education estimates that the entire amount of benefaction for educational purposes, in the United States during the last two years, is \$18,000,000.

Oxford had 2,214 students last year.

Prussia has six universities, Austria nine, Italy twenty, and the United States over three hundred.—*College Argus.*

1. THE JOHN FROTHINGHAM CHAIR.

The Germans are about to Germanise Elsass by establishing a university at Strasbourg, which shall hold a first place among the seats of learning in Germany, and whose influence throughout the community it is expected will ere long accomplish the desired result among the population. The German feelings of the professors are likely to be those of the students, especially as many of the latter will be from other parts of Germany, and whatever views the students hold will be the doctrine of the next generation of doctors, lawyers, and normal school professors, and through the latter of the schoolmasters. Slowly but surely the heaven is expected to work on a mass which is at present ignorant and comparatively characterless in a national point of view. In this, then, we have the hope-fullest opportunity for the useful appliance of large bequests and donations which our citizens wish to set apart to public and patriotic purposes. The German universities have certain advantages over those in other parts of the world, in exerting an influence over the people. They are within the reach of the people, and are not the exclusive privilege of "gentlemen's sons," as in England. They build upon a thorough basis of previous training at the gymnasiums or high schools, which in Canada we could not hope to have until teachers earn higher wages than they do. Students are not expected to enter until they are eighteen years old, whereas in Canada the mistake of entering college at from fourteen to sixteen years of age is commonly made. The professors have salaries proportioned to their responsibility; and lastly, they have a system by which any properly qualified person may act as a lecturer if he choose, and, if able, to show his superiority to the regular professors. The Germans are sufficiently liberal in the choice of professors. They rather prefer to have the utmost diversity of tenets in one school than to enforce any form of orthodoxy, except it may be faithfulness to the German idea. For a government without an established creed this is logical ground. Where, however, a college is under trustees it is to be supposed there will be some conscience in their appointments, while they aim at finding men of the widest liberal-ity of view.

The admirable management of McGill College, and the conviction that it is destined to exert a vast influence for good on the future of this country, make us hope that ere long we will see many imitators of the founder of the John Frothingham Chair of Mental and Moral Philosophy, and that the College may continue to add to its ranks such men as Professor Murray, who at present occupies that chair.—*Witness.*

2. AMERICAN NORMAL SCHOOLS.

There are in the United States fifty-one normal schools, supported by twenty-three different States, having 251 teachers and 6,334 pupils; four supported by counties, with eighty-three pupils; sixteen city normal schools, with 121 teachers and 2,002 pupils; all others, forty-three, supported in various ways, with eighty teachers and 2,503 pupils;—making a total of one hundred and thirty-four schools, with 446 teachers and 10,921 pupils. The forty-three private normal schools include colleges and other institutions that sustain normal departments, exclusive of high schools. The number of private normal schools is constantly increasing.

BELLEVILLE.—Lightning, thunder and rain, 5th, 6th. Hail, 25th. Rain, 1st, 5th, 6th, 8th—10th, 17th, 18th. A few flakes of snow, 25th.

GODERICH.—Lightning, thunder and rain, 5th. Wind storms, 1st, 4th. Fogs, 6th, 7th, 12th. Snow, 2nd, 17th, 18th, 21st, 24th, 25th. Rain, 1st, 2nd, 3rd, 5th—9th, 11th, 16th—18th.

STRATFORD.—Fogs, 6th, 7th, 17th, 30th. Snow, 2nd, 19th, 21st, 24th, 25th. Rain, 1st, 2nd, 5th—9th, 16th—19th. Thunder, lightning and rain, 5th, 6th. During the storm of the 5th hail fell twice; first, from 12.20 to 12.30 p.m., hailstones composed of snow, hardened apparently by compression, and from half to three-quarters of an inch diameter; second, 1.15 to 1.20 p.m., hailstones of ice, from 1.5 to 2 inches diameter, over 6 inches in circumference. These were generally spherical, and were formed by the agglomeration of smaller spheres. Difference of mean monthly temperature from average of 12 years—3°62. Wild pigeons were seen on the 5th. Mill pond free from ice on the 14th. Frogs heard on the 20th.

HAMILTON.—Lightning, thunder and rain, 5th, 7th. Fogs, 7th, 8th, 9th, 17th. Snow, 21st, 25th. Rain, 4th, 5th, 7th—9th, 11th, 16th—19th, 25th. Navigation open, 14th.

SIMCOE.—Lightning, thunder and rain, 5th. Wind storms, 2nd, 14th. Snow, 24th. Rain, 1st, 6th—10th, 12th, 15th, 16th, 17th. Very moist month. Much fever and ague.

WINDSOR.—Lightning, thunder and rain, 1st, 5th. Hail, 21st. Wind storms, 10th, 16th, 21st, 22nd. Fog, 7th. Snow, 3rd, 20th—26th. Rain, 1st, 2nd, 5th—9th, 11th, 15th, 16th, 18th, 20th, 26th. Lunar halo, 5th, 10th, 14th. Detroit River open to navigation from 10th March, Lake Erie ports from 7th April, and Upper Lakes from 2nd May.

VIII. Educational Intelligence.

—**VICTORIA UNIVERSITY.**—The exercises of Victoria University came to a conclusion on 27th ultimo, at the Victoria Alumni Hall here. They commenced on Sunday evening, 24th, with the baccalaureate discourse by Rev. S. S. Nelles, D.D., President of the College, from the text, "Let me give thee counsel." On Tuesday afternoon the annual meeting of the Alumni Association was held in the Hall in the College building. The usual address, very carefully prepared, and to the point, was delivered by Mr. John J. McLaren, M.A., D.C.L. At its conclusion the business meeting of the Association was held, at which John H. Dumble, LL.B., the retiring President, occupied the chair, and officers were elected for the ensuing year as follows:—Rev. Professor Burwash, professor of natural sciences, Victoria College, Cobourg, President; Vice-Presidents, N. Gordon Bigelow, LL.B., Toronto; Rev. George Washington, M.A., Danville; Secretary, H. Hough, M.A., editor and proprietor of the *Cobourg World*; Treasurer, John H. Kerr, M.A., Cobourg. Mr. Hough was appointed to deliver an annual address next year. The remaining business of the meeting consisted of a discussion of various questions relating to the interests of the university, such as the establishment of new scholarships, prizes, etc. In the evening, the Managing Committee, which consists of graduates resident in Cobourg, entertained the other members of the Alumni Association and a large number of their visitors at dinner in the Alumni Hall. On Wednesday afternoon, 27th, the Convocation was held in the Victoria Hall, in presence of a very large assemblage of ladies and gentlemen. The chair was occupied by the Rev. Dr. Nelles, President of the College. The proceedings commenced with prayer by the Rev. Mr. Jones, after which the valedictory oration was delivered by Mr. J. S. Nugent, on the Colonial Question. *Degrees.*—The following degrees were then conferred:—B.A., John S. Whiting, gold medallist; D. C. McHenry, silver medallist; F. S. Nugent, valedictorian; C. J. Brown, W. H. Culver, W. A. Douglas, J. J. Hare, J. P. Harnden, A. G. Knight, Wm. Pollard, R. E. Wood, M.A.; J. B. Clarkson, B.A.; J. A. Clark, B.A.; J. R. Ross, B.A.; J. B. Wass, B.A.; M. D. Alphonse D. Aubrey, Gaspard Archambault, Geo. Beaudry, Raphael Brodeur, Joseph Conneau, Octave Contu, Alfred Desantele, L. E. DesJardins, M.D.; George Jacques, Duhaunt, Norbert Fafard, William Philp, W. H. Johnson, Tancrede Gabourg, Joseph R. Gabourg, Anit Germain, Gideon D. Lafreniere, Emery Lalonde, Edouard Lesage, Louis J. Martel, Napoleon Papin, Louis Verner, Nath. Brewster, *ad eundem*; Rev. D. McDonald, LL.B., D.M.; P. Mills, *ad eundem*; S. S. Wallbridge, G. H. Watson, B.A.; M. H. Brethour, B.A.; W. McFadden, B.A.; J. A. Wright, B.A., D.D.; Rev. Luke H. Wiseman, President of the British Conference. *Medals and Prizes.*—Faculty of Arts. Prince of Wales' gold medal, John L. Whiting; Prince of Wales' silver medal, D. C. McHenry. Scholarship of 1871, first in general proficiency at matriculation, T. H. Hooper. Dr. Marks' Bursary, second in general proficiency at matriculation, A. Coleman. Scholarship of the class of '72, first in modern languages, D. C. McHenry. Biggar Scholarship, first in general proficiency in junior class, H. F. Marceau. Ryerson prize, first in Scripture history, W. E. Ellis. Webster prize, first English essay, A. G. Knight. Hodgins prize, second English essay, B. Longley; Wallbridge

prize, Greek Testament, Freshman class, A. Coleman, senior; Greek Testament prize, J. L. Whiting. Mills prize, first in Frenchman classic, A. Coleman. Punshon prize, first in composition and elocution, T. S. Nugent. Nelles prize, Essay on Harmony of Science and Religion, J. B. Clarkson, M.A. Faculty of Medicine. Gold medal, W. H. Johnson; silver medal, N. Brewster. Scholarships, P. McLean and John Kirkpatrick. Honourable mention, Rev. D. McDonald. Theological department. Cooley prize, first in ethics and evidences, R. B. Hare; McDonald prize, first in elocution, J. Tovell. Literary Association. Prizes, first in elocution, D. C. McHenry, second in elocution, J. Tovell; third in elocution, J. J. Hare. After presentation of prizes, the Chancellor said he wished to call attention to several benefactions in addition to those already referred to. He had great pleasure in announcing to the friends of the University, and to the public generally, that Mr. H. W. Brethour, of Brantford, had within the last few days established a scholarship of \$100 a-year. Mr. Brethour seemed to have been immediately prompted to this benefaction, in addition to former kindnesses, by his acquaintance with Mr. Mills, now head master of Brantford High School, and who was formerly a master in connection with this University. Mr. Mills had been authorized to write him (the Chairman) to say that the gentleman referred to would give the sum of \$100 yearly to be given to the best of the Matriculants in addition to those of Mr. Macdonald and Mr. Biggar. Another had been established by Rev. Ed. Wilson, Wesleyan minister, of New Jersey, out of appreciation for the kindness received by his deceased son, who was a student at the College, at the hands of his friends and companions there. It amounted to \$30 annually, to be given to the highest student of the graduate class in the department of mathematics, that being the department in which his son had studied with the greatest fondness and success. He was certain they all appreciated very much this mark of generosity and high regard on the part of a gentleman almost an entire stranger to them, and only connected to them by the link to which he had already alluded. Mr. T. McNaughton, of Cobourg, had also founded for a period of five years an annual prize of \$20, for proficiency in elocution. These donations suggested many thoughts and observations to which he might give expression under other circumstances, and there were other matters in connection with the University upon which he might probably dilate but for the presence of gentlemen who would address them on this occasion. Besides those gentlemen who were present to-day, he had had additional promises from Hon. Mr. Mowat, Hon. Mr. Cockburn, and Sir John Macdonald, all of whom had signified their desire and their intention of being present if their other engagements would permit. Telegrams had been received from them all, however, announcing the impossibility of their being present. They, however, had the honour and satisfaction of having present a very distinguished gentleman, a former professor of Oxford, and also of a university in the neighbouring Republic. (Cheers.) He was no doubt a stranger to most of them, personally, but there were also a great many who knew him by his writings—writings as remarkable for the purity of their style as for their vigour and manly independence of thought. (Cheers.) The effect of some of them some of us Canadians were wont a few years ago to fear a little, but we now feared them no longer, the talented author having become a resident of the Dominion, and editor of the *Canadian Monthly and National Review*. He thought he was warranted in presenting him to this audience, not only as a true Briton, but as what he regarded as precisely the same thing, a true Canadian. (Loud cheers.) It gave him very great satisfaction to introduce to them Professor Goldwin Smith.—Mr. Goldwin Smith, who was received with loud applause, said he was sure they must feel disappointed at the absence of those leading statesmen of the Dominion and Province of Ontario, whose eloquence they all expected to have heard to-day, and he felt himself quite inadequate to take their places. He presumed this honour was cast upon him by those present, amongst whom were many who were more worthy of it, because he was a stranger visiting Cobourg for the first time, and witnessing the good order of its University. When present on this occasion at the distribution of the honours and prizes of a University, his mind travelled back to that old romantic city by the side of the Thames, full of ancient buildings and ancient memories; and although we could not bring that city here, nor those academical institutions, we must provide such institutions as were suitable to the needs of the country, such institutions as he felt had been provided here. It was not easy to select a theme for an occasion like the present. It was idle to occupy their time with commonplace praise of education in general, and

University education in particular. All persons had assented to the fact that high education was most desirable, and had an immense effect upon national culture; but there was one thought that suggested itself, that as one conferred prizes upon the most distinguished students of the University, and as those who had taken these prizes were no doubt most highly gifted with talent, they had also the largest measure of intellectual responsibility and liabilities; and it was, therefore, with a feeling of great interest and with no small emotion that one saw them going forth into a world so full of intellectual difficulty, doubt, and danger, as the world at present is. Our day appeared beyond all preceding days to be filled with general and especially with religious doubt. Perhaps in appearance the excessive scepticism and disturbance of our day were greater than in reality. Sometimes what we took for an increase of crime was merely an increase of the detection of it; and in the same way, what we took to be an increase of scepticism and difficulty was merely an increase in the means of its detection. We must recollect that this was the first age of the world in which there had been perfect freedom and liberty of thought. It, perhaps, was true that the diversity of opinion and amount of controversy were unequalled in the history of the world, and some people looked upon this as portending some great convulsion; perhaps, however, the convulsion would not come. He compared this state of things to crossing the Alps, where, as one advances through its mountain passes, there appears every now and again a point which you fancy having once reached, you can go no further; still, on reaching that point, you are able to continue your journey as before. Such was the course of history. Mankind always appeared to be approaching the brink of some great precipice, or about to encounter some insuperable barrier, but as soon as they arrived at it, the path was again clear; and thus those difficulties which threaten the very foundations of society will probably in the same manner disappear; still, there could be no doubt that these were days of great intellectual difficulties, and that questions had been raised such as had never been raised before; that the moral, intellectual and religious principles of this world appeared to be shaken; and the best preparation for entering into and meeting the difficulties of such an age was a sound education, which qualified those who had received it for taking a calm and intelligent view of those problems presented to them. With this preparation he hoped the students present to-day would go forth into the world; but there were perhaps one or two remarks for him to address to students who, like them, were about to find themselves launched upon this troublesome world. He might, perhaps, speak with some feeling upon this subject, because every one who was an Oxford student in his time must have found what the pressure of such disturbances was. In the first place, let us not exaggerate our difficulties. Let us not think when some new theory is propounded, when some new discovery is made, that its influence is more extended than it really is, that it is going to overthrow beliefs and convictions which it does not touch. All the world is now disturbed by the Darwinian hypothesis. It was a very ingenious one, and one which was not likely to pass away without leaving some little residuum of truth behind; that it was not essentially true already appeared. It was a hypothesis of perpetual and universal transition, but Darwin had not yet been able to produce from the existing *fauna* or *flora*, or from the archives of the rocks, one really transitional form. But, granting the truth of the Darwinian theory with respect to the descent of man, he (Mr. Smith) wished people would pay more attention to the ascent of man (hear, hear). Still, what mattered it with regard to our moral actions or conduct in life how we became man? We all knew that we had passed through inferior and rudimentary phases; we knew that man was originally created out of the dust of the earth; but why should that lead us to aim the less high or prevent our doing anything less than virtue has hitherto done? If we only considered for a moment, we would see that that hypothesis had really no bearing upon our moral life. He (Mr. Smith) had himself seen in his time things of this sort, which seemed at first very formidable and threatening, pass away. He remembered that when a student at Oxford, and attending the lectures of Dr. Buckland, who was in one sense the founder of English geology, that gentleman was driven to all sorts of subterfuges of language to draw people's attention away from the fact that he believed the world to be older than it had been thought to be. We had now accepted Dr. Buckland's theory, and what had happened? The great truth with regard to the unity of the Deity and the fact that the world was created had not been in any way affected by that change; but, on the contrary, it was now more evident than before. (Hear, hear.) Again, the question as to certain moral

difficulties in the Old Testament disturbed people's minds very greatly, and he recollected the sensation made when Dr. Monsell, the late Dean of St. Paul's, brought out a series of lectures to show that in point of fact man could know nothing of God, and therefore was not able to judge of His divinity. To this a very forcible answer was of course given, that if a man knew nothing of God, he could know nothing about His goodness. These facts had led him (Mr. Smith) to observe, to use a mythological figure, that the spear of Achilles often healed its own wound—that we must wait and let the science develop itself, and, when it has run its course, it will also heal the wounds it has itself made, and we would see that God is the author of all truth. He would say to those who were about to pass through the same ordeal he passed through as a student, Do not be much overcome by the dominant opinion of the time; preserve your independence and your peace of mind, and keep yourselves cool. Well he remembered the influence of Dr. Newman when Tractarianism was at its height. It was then high and dry Establishmentarianism. It possibly was high, it certainly was very dry. (Hear, and laughter.) Dr. Newman, with all the poetry of the new Catholicism, with all the poetry of Gothic architecture, took their young hearts by storm, and they thought that it was the culmination of all movements, and that it was the one which was to regenerate the world; and what was the result? Dr. Newman's party was now broken up, and its intellectual wrecks were cast upon every shore. Then he remembered the influence exercised upon the young mind by the first publication of the philosophy of Comte, dressed out as it was with the most imposing generalities of science and history. Now all writers of the same school of thought as Comte regarded his theory as a thing of the past. They admitted that it had stimulated enquiry, but on its ruins they founded other theories. The same with regard to Buckle's theory: nobody now believed that all the moral, spiritual, and social life of man are deducible from his primitive food. They could not help to a certain extent surrendering themselves to the influence of a great theory and of a great teacher of the hour, but they should still remember how many clouds have passed the sun, and that each successive doubt or perplexity that arose might in its turn be another passing cloud. They should remember that the great problems now before the world are problems requiring the most laborious investigation, and are not to be solved in a lifetime; and they must therefore be patient, they must remember that if they knew anything of themselves, they were in the hands of a divine justice, who would not lay on them burdens heavier than they were able to bear. They could themselves greatly aid the enquiry, not by taking part in it, but by keeping their minds open, by lending a willing ear to truth, no matter from what quarter it came, and by spreading around them a spirit of fairness, toleration, and candour, and putting down whatever is the reverse. He learned that in this University there were students of different denominations; and he presented himself before such an University with pleasure, because he was convinced that after all our religious divisions and dissensions the time was coming when we should remember the only One name mentioned in the Gospel—remember that we are not Unitarians or Episcopalians, or Methodists or Presbyterians, but Christians and nothing else. (Applause.) And they might depend upon it that it was the simple morality of the Gospel, without anything which in the course of eventful ages had been laid upon it, and the simple type of character presented to them in that Gospel, which would carry them through these perplexing times. Still he thought without disparagement to any other Church, the Wesleyan Methodists had a considerable advantage over other religious bodies. All except the Wesleyan Methodist churches had been more or less in antagonism to other Christian churches, but the Church of Wesley was founded in antagonism only to irreligion and immorality. It was founded in the eighteenth century, when nearly all the controversies between the different Churches were almost dead, and when the struggle was only one against the vice of the world.—The Wesleyan Church had a great advantage in its reuniting and harmonizing influence over all the other churches of Christendom. After a few further remarks, the learned professor concluded by expressing his cordial wishes for the success of Victoria University and those who were just going forth from it. Rev. Dr. Ryerson was then called on, and said it was nearly forty years since he went to England and obtained from George the Fourth a charter for Victoria University, the first charter granted to any institution of that description outside of the Church of England. (Applause.) At the same time he received by the authority of the Imperial Government a grant of £4,000; but the chief work in the establishment, erection, and maintenance of the University

through years of great difficulty and deprivation, and of not a little opposition, was done by the people of Canada. At the time he was in England he obtained from His Majesty the first charter in favour of a Wesleyan institution that had ever been granted. He had set it on an entirely free footing, having repudiated anything like tests and having split with one of his colleagues upon that very point. He might appeal to all the chiefs of this institution, and to all those who had received their intellectual training in it, whether it was not among the greatest advantages of its administration that its teachings were associated with all those principles of our common Christianity which are the primary source of the highest social progress of man, and were also of incalculable worth to the heart and mental culture. He pointed out the advantages of the extension of Christian sympathy, a feeling which was the very spirit of the Christian Church, the element of its vigour and its motion. He pointed out in eloquent terms the benefit which we ourselves reaped, and which we conferred on our neighbours, by warmth of heart and liberality of sentiment, and said that if there was anything worthy above every other virtue that a man should possess, it was the true element of love. He hoped this institution might prosper still more and more; and although his voice might not be raised in the future as in the past in the advocacy of its interests, while memory held a place he should feel a deep interest in its progress, its maintenance, and its ultimate triumphs. The rev. doctor took his seat amid loud cheers.—The Chairman intimated that the late Mr. Edward Jackson, of Hamilton, had bequeathed in his will the sum of \$10,000 for the benefit of this institution, from which they expected to create a salary for a theological chair in connection with the University. This was the largest bequest that had been made to the University since its establishment, and he expressed himself deeply grateful for the benefaction.—The Rev. Dr. Green then pronounced the benediction, and the meeting closed. *Conversazione*.—In the evening a conversazione and promenade concert was held, under the auspices of the Literary Association of the University, in Victoria Hall. A large and fashionable assemblage was present. The Hall was brilliantly lighted and gaily decorated. The Misses Vescelius (three), of Brooklyn, New York, had been specially brought here for the occasion, and sang several pieces during the evening, besides giving a number of pianoforte performances. The orchestra, under the direction of Professor Chalaupka, also performed several pieces.—*Correspondent of Globe*.

—TORONTO UNIVERSITY.—On the 10th inst. the annual meeting in Convocation took place at the University of Toronto, Vice-Chancellor Larratt Wm. Smith, D.C.L., presiding. The members of the Senate, examiners, undergraduates, and others, having taken their seats, the successful candidates were introduced and duly invested as follows:—LL.D.—J. A. McLellan, M.A., LL.B., and R. Snelling, LL.B. M.D.—H. H. Fell, M.B., and A. Groves, M.B. M.A.—C. R. W. Biggar, B.A., Rev. G. Burnfield, B.A., W. Dale, B.A., H. M. Hicks, B.A., W. H. Kingston, B.A., J. G. Robinson, B.A., and J. White, B.A. LL.B.—M. Cumming, B.A., R. E. Kingsford, M.A., J. Muir, M.A., J. McIntosh, Rev. N. McNish, M.A., D. G. Sutherland, and W. Watt, B.A. M.A.—Goldwin Smith, from the University of Oxford, England, and Rev. G. Paxton Young, from the University of Edinburgh. M.B.—F. R. Armstrong, J. S. Balmer, M. I. Beeman, N. Brewster, J. A. Close, and W. Ferrier. M.B.—J. W. Gray, J. Gunn, S. D. Hagle, T. Lear, H. T. Machell, N. W. Meldrum, C. Morrow, W. Nichol, C. A. Paterson, J. Richardson, R. H. Robinson, and A. H. Wright, B.A. B.A.—F. Ballantine, W. Barwick, F. Black, James Campbell, John Campbell, J. Craig, E. W. Dadson, J. K. Fisked, C. Fletcher, A. C. Galt, J. R. Gilchrist, A. M. Hamilton, J. B. Hamilton, F. N. Kennin, R. B. Lesslie, J. H. Long, J. H. Madden, F. Madill, H. P. Milligan, L. A. McPherson, J. Nichols, W. E. Perdue, W. J. Robertson, J. T. Small, T. S. T. Smellie, C. G. Snider, A. Stewart, P. Straith, J. Torrance, A. M. Turnbull, F. H. Wallace, J. Wallace, N. J. Welwood. Diploma in Agriculture, F. Madill. The Rev. JOHN McCaul, LL.D., President of University College, referred to a matter of a personal character. He said that was the last time he should appear on the platform at the University as one of the examiners. This made the 31st year since he commenced duty as an examiner here, although it was some 41 years since he entered into the duties as a public examiner, having been an examiner in another University before he came to this country. At the close of his career he felt it his duty on this public occasion, to return his cordial thanks to all his associates in his duty as examiner, for the uniform courtesy manifested towards him; they were due also to the students for the spontaneous deference ever shown

him. He trusted he might, in taking leave of the University, be permitted to express an earnest hope—he might say rather a confident expectation—that the rewards and honours would still be continued to be conferred as hitherto, without fear or favour, without any consideration for religious, political, national, or social distinction. *Scholarships*.—Matriculation, 1872. Classics—J. G. McKeown (Double); J. E. Wetherall (Double). Mathematics—A. K. Blackadar, W. G. Eakins (treble), W. Grant (double), equal. English, History, and French—W. G. Eakins. General Proficiency—J. E. Wetherall, W. G. Eakins, J. G. McKeown, P. S. Campbell, F. E. Hodgins, J. W. A. Stewart, W. Grant. *Medals, Scholarships, and Prizes, 1873*.—*Medals*.—Faculty of Law—Gold medal, J. McIntosh; silver medal, J. Muir. Faculty of Medicine, Gold medal, J. A. Close; silver medal—M. I. Beeman, A. H. Wright, S. D. Hagle; Starr gold medal, N. W. Meldrum; Starr silver medal, J. A. Close, S. D. Hagle. Faculty of Arts—Classics—Gold medal, F. H. Wallace; silver medal, J. T. Small; ditto, J. Craig. Mathematics—Gold medal, H. P. Milligan; silver medal, W. J. Robertson. Modern Languages—Gold medal, J. H. Long; silver medal, L. A. McPherson. Natural Sciences—Gold medal, J. Nichols; silver medal, J. B. Hamilton; ditto, J. H. Madden. Metaphysics, Ethics, &c.—Gold medal, W. J. Robertson; C. G. Snider, A. Stewart, equal; C. Fletcher, J. Torrance, P. Straith. Faculty of Law—Second year, H. J. Scott; third year, W. F. Walker. Faculty of Medicine—First year, A. C. Bowerman; second year, A. Farewell; third year, O. C. Brown. Faculty of Arts—Greek and Latin—First year, J. G. McKeown (double); ditto, E. Harris; second year, L. E. Embree (double); ditto, A. Cryler (double); third year, T. T. Macbeth; ditto, J. E. Hodgson. Mathematics—First year, A. K. Blackadar (double); W. Grant, J. Cameron; second year, H. H. Gilmer; third year, F. F. Manley; ditto, A. Dawson. Modern Languages—Second year, A. R. Dickey; third year, G. Stewart. Natural Sciences—Second year, W. Fletcher (double); third year, G. W. Thompson. Metaphysics, &c.—Second year, A. P. McDiarmid; third year, F. P. Beta. History and Civil Polity—Third year, W. Johnston. Special Proficiency in subjects other than Classics and Mathematics—First year, W. G. Eakins (double); second year, W. Fletcher. General Proficiency—First year, W. G. Eakins, J. G. McKeown, A. K. Blackadar, P. S. Campbell, A. J. Moore, R. D. Carey, J. Doherty; second year, L. E. Embree, A. Cryler, T. Carscadden, M. S. Clark; third year, A. B. Aylsworth, J. Reid. *Prizes*.—French Prose—L. A. McPherson. German Prose—J. H. Long. Oriental Languages—First year, E. Harris; second year, F. R. Beattie; third year, J. Torrance. Civil Engineering—J. F. McNab, Prince's Prize—W. J. Robertson. Mr. THOMAS MOSS, M.A., referred to the presence on the platform of a distinguished professor of a University in the mother land, and of an eminent gentleman who filled the chair of the late Sir William Hamilton (Applause.) He, on behalf of the undergraduates, expressed a wish that these gentlemen should be asked to offer any remarks the occasion called for. The VICE-CHANCELLOR expressed his willingness to comply with the request, and intimated the same to the gentlemen referred to. Professor CORNWOOD, of Edinburgh University, then addressed those present, and said that it gave him great pleasure to be there. There was a deep interest felt in the old country in the welfare of the University here. The daring of the country must be crowned with an education of a comprehensive character. He did not believe in one form of education being antagonistic to another form. All forms of education should be combined together, so as to elevate the national character of the people. The University of Edinburgh looked on this University with great satisfaction. He referred to the pleasure it gave him in seeing familiar faces receiving honours here. He had not the special honour spoken of, of filling the chair occupied by the late Sir Wm. Hamilton, a name which stood high in the ranks of philosophic literature; but if he had not the honour of occupying that chair, he occupied a sister chair, which had been filled by Drydale Stewart and Christopher North, names which were well known and held in high honour in all countries. He again spoke of the satisfaction he felt at being present at the meeting. Prof. GOLDWIN SMITH, who was received with loud applause, thanked them all most heartily, and especially the students and graduates, for the kind welcome that he had received into the University membership, to which in common with his good friend and their instructor, Prof. Young, he had been that day admitted. He trusted that he should never do anything to disgrace that welcome. He trusted that in so far as he should be connected with teaching, or writing, or anything that might tend to mould Canadian opinion, he should endeavour to keep the aims, the character, and the tone of the nation high. (Ap

laure.) It had been said that the mind of a boy was something sacred; but still more sacred was the character of a young nation. They there stood at the source of what they believed would be a mighty power and a mighty civilization, and they must take care that they did not pollute the spring. As had been remarked, the day on which Professor Young and he (Mr. Smith) were admitted to their *ad eundem* degree, happened to be an auspicious and a memorable one in the annals of the University; for on the motion of, he believed, Mr. Crooks—a gentleman to whom he might refer without partisanship, and who was an illustration of the high tone a University could give to statesmanship—the measure of their liberty to take part in the management of the institution had just been increased. This was right and wise. In popular governments the people, if it understood its best interests, and sovereign though it were, would always respect two things—the independence of the judiciary and the independence of the universities. Universities, of course, like the judiciary, must be under the law, and in a case of need the Legislature must intervene for their reform and their reorganization, but it would be well to leave them free to do their own work, entirely clear of party politics and impartially free to instruct the mind and mould the opinions of the nation. There were some who would wish to centralize everything, to whom the most perfect organization appeared to be one which had only one organ—the central Government—for all functions. Mr. (Mr. Smith) remembered many years ago asking an eminent French public man what had been done for education under that high central system which prevailed in France under the Empire. The statesman's answer was, "It has killed youth;" and were not his words fulfilled? Had not that system killed French youth? Was not France, at her direst need, left destitute of force of character, and obliged to resort to the old men of a past generation in this her hour of extremity? There was a subordinate reason, yet still a strong one, for not making the University completely a Government department. It was this—that if they made the University too completely a governmental department they would repel private munificence. In their library stood the statue of William of Wykeham, whose name he had often heard mentioned by the heirs of his bounty. That man was the type of the illustrious dynasty of public benefactors of Oxford, each of whom had brought his stone to what was now that noble edifice. But those men would not have contributed to a mere department of the Government. When he spoke of centralization and decentralization in matters of high education, he did not mean to say that he wished to see the resources of higher education, even now scanty enough, rendered still scantier by dispersion, nor grants given to all colleges that might ask for them. "One-horse" colleges, as they had not inaptly been called, were the bane of the United States. He frankly said that he was sorry they could not have a religious university; he did not mean dogmatic, but one whose motives were the deepest to which they could appeal, whether to encourage industry or to stimulate effort of any kind, and those motives he took to be religious motives. But in the present state of things they could not have a religious university. They should therefore have a system of religious training within their own walls, and combine together to build up a really great institution, and at the same to produce that atmosphere of learning and science without which intellect could hardly grow. The greatest university would be the best university. A great university alone would be a good university, and those who seceded from the universities on religious grounds would be consigned to irreligion. But if it was well that the nation should leave them free to do their own proper work, unimpeded by any political or party interference, it was right also that they should study to meet the needs and religious requirements of the nation. They must remember that they lived in the nineteenth century, not in the middle ages; that this was the age of science, and that this was the country of practical science. The human mind had opened up new fields of inquiry, and once more new-comers sought admission among the scientific studies. Let them welcome these heartily into the University. Let them not seat them at the gate and then put them off with a dole of inferior honours, but invite them into the hall and seat them at the hospitable board. But let them not, on the other hand, seek to eject the ancient denizens. The antagonism was merely transitory. Men would find out in time that one study was the study of physical nature, and the other the study of humanity, and they must not forget that while they studied physical nature the proper study of mankind was man. That degree of arts they had been taking that day was a good symbol of permanency and also of wise change. If they went back to England, where that system was first instituted, their thoughts would be taken back to an old Saxon town, over which towered the feudal stronghold

of some Front Boeuf, a town where they would see bands of students gathering round professors whose lecture rooms were the street corners, or any other place where a crowd could be assembled, and drinking in knowledge with a thirst scarcely paralleled in modern times. They should then see them summoned by a bell to receive the very honours that had been conferred on students there that day, and in very much the same form. Of those men they were the distant heirs, distant in time and living in a country of the existence of which they never dreamed. But while that degree had been the symbol of permanency, it had also been the symbol of wise change. In the middle ages, the studies for the Bachelor's degree were chiefly of mental philosophy of that arid kind which we couple with the name of the school-room. Then they found when they came to the *renaissance* all the struggle against the introduction of Greek and Latin, subsequently the staple of the scholastic course. At a later period the Arts degree admitted at Cambridge the science of Newton. Next, it opened to admit the humanities; and so again at this age it must be opened to admit the natural sciences, the knowledge of which is power. After expressing his best wishes for the success of the University, and again returning thanks for the honour that had been conferred upon him, Mr. Smith took his seat amidst loud applause. Cheers were then given for the Queen, the Vice-Chancellor, the Examiners, the ladies, &c., and the assemblage dispersed.—*Globe*.

—MEETING OF CONVOCATION, TORONTO UNIVERSITY.—At a meeting of the Convocation of the University of Toronto, held yesterday in the Convocation Hall, under the provisions of the recent University Act, Mr. Thomas Moss, M.A., was elected Chairman, and Mr. William Fitzgerald, M.A., Clerk of Convocation. Professor Goldwin Smith and Professor Young were received as members of Convocation, after which the meeting adjourned till Wednesday, the first day of July next, at 3 p.m., in the Convocation Hall.

—QUEEN'S UNIVERSITY.—The Session 1872-3 of the Queen's University was brought to a close in the Convocation Hall. The professors and old graduates assembled in the Senate Chamber entered the Convocation Hall (which was beautifully and tastefully decorated with evergreens and bunting) at 3 o'clock, and took seats upon the platform. Rev. Principal presided, and opened with prayer, after which the Registrar, Prof. Mowat, read the minutes of the last convocation, which were approved. Then came the announcement of class prizes, which were distributed by the several professors to the successful competitors, who were heartily applauded as they stepped forward. The Registrar read the names of the new graduates in Arts, Theology, and Medicine, to whom the *sponsio academica* was administered and lauded, and retired amid applause.

The Principal, in that lucid and impressive style which usually characterizes his public utterances, addressed the graduates, congratulating them upon the high University honours which had been passed upon them, and the brilliant future that lay before them by the cultivation of moral habits and upright principles, which alone are the true foundation of this world's greatness. In the course of the chairman's speech he alluded to the worthy assistance to the College fund and encouragement to students which graduates and the public could afford by donations for special prizes, several of which were provided through the munificence of different liberal persons, and presented to their creditable winners. He urged upon his hearers increased generosity in this respect. He likewise adverted to the Endowment Fund, the receipts towards which amounted to over \$100,000, but the paid-up subscription to which fell about \$10,000 short. He trusted the deficiency would be forthcoming, so that above what was wanted for immediate purposes, the authorities would be in a position to make certain necessary improvements. He pronounced a handsome tribute to the superior status and efficiency of the Kingston Collegiate Institute, from which most of the leading students received their preparatory training: and remarked that with the establishment of a Normal School Kingston would be the centre of education in the Eastern section of the Province of Ontario.

DEGREES.

Bachelor of Arts.—1. William Arthur Lang, Almonte, with first-class honours in History; 2. Robert Shaw, Kingston; 3. Peter C. McNeen,

Perth; 4. William Donald, Seymour. *Master of Arts*.—William Henry Fuller, B.A., Kingston; Ebenezer Duncan McLaren, B.A., Komoka; Duncan McTavish, B.A., Kingston. *Bachelor of Divinity*.—Ebenezer Duncan McLaren, B.A. *Doctor of Medicine*.—Alfred David, Picton; Jacob Bruce Kennedy, Smithville; Charles Henry Lavell, Kingston; Samuel Thompson Macadam, Pakenham; Alexander Stewart McLennan, Glangarry; James McMahon, Kingston; Alvanly Newton Purdy, Loughborough; Hugh Spear, Garden Island; William Wymond Walkem, Kingston.

Arts—First Year.—1. Patrick Anderson Macdonald, Gananoque; 2. John Ferguson, Belleville, with first class honours in Mathematics; 3. Thomas Wilson, Wardsville, with first class honours in Classics; 4. John Mowat Duff, Kingston.

University Prizes—Arts.—First year—Montreal—Patrick Anderson Macdonald; Second year—Montreal—William Mundell; Third year—Montreal—Donald Malcolm McIntyre; Fourth year—Prince of Wales—William Arthur Lang. *Theology*.—Lewis—Robert John Craig.

CLASS PRIZES.

Classics—First Year.—1. Thomas Wilson, Wardsville; 2. Patrick Anderson Macdonald, Gananoque; Honourably mentioned—James George Stuart, Toronto. *Second Year*.—1. William Mundell, Kingston; 2. Robert W. Shannon, Kingston; Honourably mentioned—George R. Webster, Lansdowne; John Herald, Dundas; John Pringle, Galt; Thomas D. Cumberland, Adjala. *Third Year*.—Donald M. McIntyre, Kingston, and John McCracken, Ottawa, equal; *Fourth Year*.—William A. Lang, Almonte; Honourably mentioned—Peter C. McNee, Perth. *Mathematics*.—Junior, 1. John Ferguson, Napanee; 2. James G. Stewart, Toronto; Senior—1. William Mundell, Kingston; 2. G. R. Webster, Lansdowne. *Natural Philosophy*.—Junior—1. Donald McIntyre, Kingston; 2. James John Craig, Charlottetown; Senior—William A. Lang, Almonte; 2. Robert Shaw, Kingston. *Chemistry*.—1. Robert Walker Shannon, Kingston; 2. William Mundell, Kingston. *Botany and Zoology*.—1. Donald Malcolm McIntyre, Kingston; 2. James J. Craig, Charlottetown; Honourably mentioned—John J. McCracken, Ottawa; George Gillies, Carleton Place. *Mineralogy and Geology*.—William Arthur Lang, Almonte, and Peter C. McNee, Perth, equal; Honourably mentioned—Robert Shaw, Kingston; William Donald, Seymour. *Logic*.—1. Robert W. Shannon, Kingston; 2. William Mundell, Kingston; Honourably mentioned—Thomas D. Cumberland, Adjala; George R. Webster, Lansdowne; Charles McKillop, Lanark; Alexander McRae, Lancaster; John Pringle, Galt. *Metaphysics*.—Donald McIntyre, Kingston; Honourably mentioned—John McCracken, Ottawa. *Ethics*.—William Donald, Seymour; Honourably mentioned—William A. Lang, Almonte; Peter C. McNee, Perth; Robert Shaw, Kingston. *History*.—William A. Lang, Almonte; Honourably mentioned—William Donald, Robert Shaw, Peter C. McNee. *Senior French*.—George Gillies; Honourably mentioned—John J. McCracken, Donald McIntyre. *Junior French*.—1. William Mundell; 2. Thomas D. Cumberland; Honourably mentioned—John Herald, Archibald McMurchy, Charles McKillop, Alexander Macgillivray, John B. Dow, George R. Webster, Robert W. Shannon, Henry A. Asselstine. *English Literature*.—1. Thomas D. Cumberland; 2. George R. Webster; Honourably mentioned—Alexander Macgillivray, Charles McKillop, John Pringle, William N. Chambers, Archibald McMurchy, Henry A. Asselstine, William Mundell, Thomas S. Glassford. *English Language*.—James George Stewart; Honourably mentioned—Patrick Anderson Macdonald, John M. Duff, Hugh Cameron, George Claxton. *Hebrew*.—Third year—Ebenezer D. McLaren. *Divinity*.—First year—John L. Stewart, B.A.; Second year—John J. Cameron, M.A.; Third year—Ebenezer D. McLaren, B.A.

—ALMA MATER SOCIETY CONVERSATION.—The programme, which was prepared with great taste, was opened by a very fine selection by the Band of the Garrison Battery, followed by the famous college song "Gaudeamus," by the Alma Mater Glee Club. The President then delivered an eloquent address. Mr. R. Tandy succeeded in a song, which was sung with that gentleman's well-known ability, and elicited the applause of the assembly. Dr.

Dupuis followed in a reading—this terminated the first part of the programme. The second part was likewise opened by the band executing a charming selection. The Very Rev. — Snodgrass gave an address complimenting the society on the magnificent success of the entertainment, and also on the prosperity of the past year. He referred in most encouraging terms to the state of the University; that its endowment now placed the institution on a firmer basis than ever; that both in attendance and ability the students afforded the most gratifying indications of the increased prestige of the college. Miss Bates, so well known as an accomplished vocalist, rendered a very beautiful song with fine effect, which was rapturously encored, when she gracefully yielded to the opportunity by singing another, also commanding unusual favour. Rev. D. J. McDonnell contributed a reading from "Ivanhoe," which was well received. We understand the rev. gentleman, when graduating several years ago in the University, obtained very distinguished honours. He is now a resident of Toronto. The second part concluded with a piano duet, artistically rendered by the Misses Dyckman and Yates, to the applause of the delighted guests. Prof. Watson read a selection from the "Ingoldsby Legends," followed by a well-rendered Scottish song by Mr. W. G. Craig, who also received a recall. The closing song was by the Glee Club, entitled "Alma Mater," and reflected great credit on the gentlemen composing it. The National Anthem concluded one of the most pleasurable entertainments ever held in the city. We must not omit mention of the beautiful experiments by Prof. Dupuis in one of the classrooms. This furnished some of the chief attractions of the evening, elucidated as they were in the clear style for which the learned professor is noted. —*Chronicle and News*

—NATIONAL EDUCATIONAL ASSOCIATION.—The Thirteenth Annual Meeting of the National Educational Association will be held in Elmira, New York, on the 5th, 6th and 7th days of August, 1873. Free return tickets are promised on the Erie and other Railroads centering in Elmira. A cordial invitation to hold the meeting in that city has been received, signed by the Mayor and Aldermen, and sixty-five prominent citizens, including Judges, Editors, Presidents of Banks, Clergymen, Lawyers, and the officers of Elmira College. A warmer welcome was never promised to the Association. No effort will be spared to render this meeting interesting and profitable. A large attendance is anticipated. The morning and evening of each day will be occupied by the General Association, and the afternoon by the four Departments.

IX. Departmental Notice.

SUGGESTIONS TO CORRESPONDENTS OF THE DEPARTMENT.

1. Letters should be addressed to the "Education Office," or "Education Department," and not to the "Normal School," which is a Branch of the Department, having its own letter-box at the Post Office.
2. Application for Maps, Apparatus, Prize or Library Books should (as stated on the face of them) be accompanied with the remittance named in the application. It should not be enclosed in a separate envelope, unless the fact is specially noted on the application. Very often the application (stating that a certain sum is enclosed) comes in one envelope and the money in another. This discrepancy should not occur without an explanation being given in the letter. The Post Office authorities do not now allow the form of application filled up to pass through the post as printed matter.
3. The name of the Post Office of the writer, or School Section, should invariably be mentioned in the letter. Frequently letters are received without either the date or post office being given in them.
4. Letters are often posted and registered at one office, while another one is mentioned in the letters themselves. This fact should be noted in the letter by the writer, otherwise the discrepancy causes confusion and inconvenience in the letter registry of money receipts.

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CIRCULAR TO HIGH SCHOOL BOARDS THROUGHOUT THE PROVINCE.

GENTLEMEN,—I have the honour to transmit herewith the Programme of Studies, General Rules and Regulations for the government of High Schools and Collegiate Institutes, which have been prescribed by the Council of Public Instruction, and approved by His Excellency the Lieutenant-Governor in Council.

This is now the third year since the Programme itself and

timate to your Board that, on the reassembling of the High Schools in August, the accompanying Programme, Rules and Regulations will take effect.

Your Board will observe, by reference to the High School Act, that the Legislature has confined the functions of the High Schools, as relates to English education, to the teaching of "all of the higher branches of a good English and commercial education." A misapprehension of this provision of the law has led to innumerable evils in our High Schools. The tendency, and, indeed, in many cases, the effort has been, to divert the High Schools from their legitimate purpose, and to make them little better than a mere elementary common school—the unjust and unlawful rivals of

some of the Regulations have been published. For various reasons, I have preferred leaving that Programme, at least during a portion of that time, optional with the Boards of Trustees. This was the more necessary owing to the fact that the Programme itself could not go into effect until the Regulations for the admission of pupils to the High Schools had been definitely decided upon. These and the other General Regulations affecting High Schools having now been approved by the Government, no further time should be lost in carrying them into effect, and giving the High Schools and Collegiate Institutes that definite status which the Legislature designed they should have in our System of Public Instruction. I have, therefore, to in-



HARTFORD PUBLIC HIGH SCHOOL.

the Public Schools. So strongly, indeed, has the pressure in this direction been brought to bear upon the Council of Public Instruction, that it has reluctantly been induced to lower the standard for admission to the High Schools to a point little beyond that of the third class (out of six) prescribed for the Public Schools.

The Legislature has already made ample provision for the teaching in our Public Schools of all the elementary branches of education. To teach them (as is done in some High Schools) is a violation of law, and an interference with the legitimate province of the Public Schools. The Legislature has wisely restricted the teaching in the High Schools to the "higher branches of a good English and commercial education." If the Council has erred at all in this matter, it has erred in making the standard of admission to the High Schools too low instead of too high.

I trust, therefore, that each High School Board will see that in the instruction given in their school none but the subjects prescribed in the Programme shall be taught, and that no effort will be made or suffered, either to evade the wise provisions of the law, or to lower the reasonable standard of High School instruction which the Legislature itself has set up.

There is another aspect of this question to which I desire to call the attention of High School Boards. Up to 1871, it was urged with some force that, while the Legislature required the High School Boards to do certain things, it left them powerless to provide the necessary means to enable them to do so. This was doubtless true to a certain extent up to 1871, though I had sought in past years to have it otherwise. However, in 1871 the Boards of Trustees were left without any excuse on that ground. In that year, while the Legislature prescribed one or two additional subjects of instruction in the High Schools (which gave a symmetry and completeness to the course of study in them), it also provided most liberally for enabling trustees to support their schools and pay their teachers. Not only did it in that year increase the High School grant from \$57,000 to \$70,000, but it also required the County and City Councils to provide by assessment (for the first time), and to furnish the trustees with \$35,000 more—making a total High School grant from that time of \$105,000 per annum—or, on an average, \$1,000 for each High School and Collegiate Institute—besides \$750 additional for each of the Institutes.

Farther, for the first time, the Legislature authorized each High School Board to call upon the Council or Councils concerned to provide by assessment whatever additional sums it might require "for the school accommodation and maintenance" of the High School; and it made it an imperative duty of these Councils to provide these sums. It might be well, in regard to this matter, to call attention to the comparative amount of the grants made to the High and Public Schools. I have already shown that the Legislature has provided a preliminary High School fund of \$105,000, to be divided among about 105 High Schools and Collegiate Institutes, independently of the \$750 additional paid to each of the latter institutions. This sum allows of an apportionment of from \$25 to \$30 per pupil in average attendance at each High School and Collegiate Institute.

To the Public Schools the grant, including the County assessment, did not last year amount to more than 80 cents per pupil, and this year that sum will not exceed \$1 per pupil in average attendance at each public school. It may be left to the judgment of any candid man, therefore, whether it is reasonable or just to allow High Schools to do Public School work, and yet receive between twenty-five and thirty times as much as the Public Schools for doing it!

If the High Schools do any Public School work, then should the High School Fund be made a Public School Fund, and be equitably distributed among all the Public Schools. If there is no High School work in a neighbourhood, then there should be no High School there. Every true friend of High School education is, therefore, concerned to see that no abuse shall be practised upon the High School Fund, and that it shall be faithfully employed in the legitimate work prescribed to High Schools by law.

It will be seen, by the authorized regulations, as well as by the provisions of the law, that the local boards of examiners must see that the uniform standard for the admission of pupils to the High Schools must be observed; that these regulations apply to all pupils admitted to the High Schools since August, 1872; and that the Inspectors are to see that these regulations are duly observed.

No branch of our System of Public Instruction has thus far been comparatively so defective and inefficient as that of the High Schools—the intermediate branch between the Public Schools and the University, and between the Public Schools and the manufacturing and commercial employments of life. I trust the exertions of your Board will tend to promote this important branch of the proper education of a people, and to make the High Schools as honourable to the country, and as much and as generally prized as are the Public Schools.

I have the honour to be,
Gentlemen,
Your very faithful servant,

E. RYERSON.

Education Department,
Toronto, 2nd July, 1873.

CIRCULAR TO THE INSPECTORS OF HIGH SCHOOLS.

GENTLEMEN,—The inspection of High Schools and Collegiate Institutes having now become a settled organized system, I have submitted to the Council of Public Instruction, in a condensed form, the various regulations and instructions under which that inspection has hitherto been conducted. The Council has also added a few additional regulations which have been rendered necessary in consequence of the additional duty which now devolves on the High School Inspectors, provision having been made by the Legislature for increasing their number for the purpose of visiting and reporting upon the Public and Separate Schools in those places where High Schools are situated. These Regulations have been incorporated in the General Regulations for the government of our High Schools and Collegiate Institutes, and have received the sanction of His Excellency the Lieutenant-Governor in Council. They will go into effect on the reassembling of the High Schools after the Midsummer vacation.

In order to give a definiteness and uniformity to the inspection and examination of each High, as well as Public and Separate School which you may visit, I have had prepared, as authorized by the Regulations, certain forms of report which will be found useful and suggestive in carrying on the inspection of these various schools. These reports, as before, will be confidential, and I trust they will be fully and carefully filled up, and that the report of the inspection of each school will be transmitted to this Department without delay, as you proceed from county to county, or from school to school. When the report of the inspection of each school is transmitted separately, as requested, I shall be able to examine it carefully, and learn what is being done in the schools, as well as in the inspection of them; which I cannot do when the reports of the whole half year's inspection are sent in at once.

I hope that the efficiency of the High Schools and Collegiate Institutes will be greatly advanced by the revised Programme and Regulations, as well as by the improved system of inspection.

I have the honour to be,
Gentlemen,
Your obedient servant,

E. RYERSON.

Education Department,
Toronto, 2nd July, 1873.

PART I.—GENERAL REGULATIONS FOR THE ORGANIZATION, GOVERNMENT, AND DISCIPLINE OF HIGH SCHOOLS AND COLLEGIATE INSTITUTES IN ONTARIO.

PREScribed BY THE COUNCIL OF PUBLIC INSTRUCTION ON THE THIRTY-FIRST DAY OF MARCH, AND TWENTIETH DAY OF MAY, AND APPROVED BY HIS EXCELLENCY THE LIEUTENANT-GOVERNOR IN COUNCIL ON THE TWENTY-FOURTH DAY OF JUNE.

I. Terms, Hours of Daily Teaching, Holidays, and Vacations.*

1. *Terms.*—There shall be *four* terms each year, to be designated the winter, spring, summer, and autumn terms. The winter term shall begin the *seventh of January*, and end the *Tuesday next before Easter*; the spring term shall begin the *Wednesday after Easter*, and close the *last day of June*; the summer term shall begin the *sixteenth day of August*, and end the *Friday next before the fifteenth of October*; the autumn term shall begin the *Monday following the close of the summer term*, and shall end the *twenty-second of December*.

2. *Hours.*—The exercises of the day shall not commence later than *nine o'clock a.m.*, and shall not exceed *six* hours in duration, exclusive of all the time allowed at noon for recreation, and of not less than *ten* minutes during each forenoon and each afternoon. Nevertheless, a less number of hours of daily teaching may be determined upon in any High School, at the option of the board of trustees.

3. *Holidays.*—Every Saturday shall be a holiday; or, if preferred by the board of trustees and head master of any High School, the afternoons of Wednesday and Saturday in each week shall be half holidays. All days declared by law to be public holidays, shall be holidays in each School. The anniversary of the birth of our Sovereign, Dominion Day, any local municipal holiday, and such day as may be appointed by the Governor, or other competent authority, for Public Fast or Thanksgiving throughout the Province, shall be holidays in all the High Schools of Ontario.

4. *Vacations.*—There shall be three vacations in each year; the first, or spring vacation, shall begin on the Wednesday next before Easter, and end on the Tuesday next after it; the second, or summer vacation, shall begin on the first day of July and end on the fifteenth day of August, inclusive; and the third, or Christmas vacation, shall commence on the twenty-third day of December and end on the sixth of January.

[NOTE.—No lost time can be lawfully made up by any master or teacher on any holiday, or during the vacations.]

5. *All Agreements* between Trustees, Masters and Teachers shall be subject to the foregoing regulations; and no Master or Teacher shall be deprived of any part of his salary on account of observing allowed holidays and vacations, or for sickness, as provided in Regulation 5 of the "*Additional Duties of Masters and Teachers.*" Masters and Teachers shall be entitled to the holidays or vacations immediately following the close of their period of service.

6. *Examinations.*—The public half-yearly examinations required to be held in each High School [by the *eight* clause of the *twenty-fifth* section of the Ontario Consolidated High School Act] shall take place, the one immediately before the Christmas holidays, and the other immediately before the summer vacation. (Examinations for scholarships, etc., shall be conducted as prescribed in Regulation fifteen of chapter seven of these Regulations.)

[NOTE.—See General Regulations, and note, in the "*Additional Duties of Masters and Teacher*" (number 9), in regard to Masters and Teachers visiting other schools.]

II. Religious and Moral Instruction in the High Schools and Collegiate Institutes.

1. As Christianity is the basis of our whole system of elementary education, that principle should pervade it throughout.

2. The High School, or Collegiate Institute, being a *day*, and not a *boarding* school, rules arising from domestic relations and duties are not required, and as the pupils are under the care of their parents and guardians on Sundays, no regulations are called for in respect to their attendance at public worship.

III. Opening and Closing Exercises of each Day.

With a view to secure the Divine blessing, and to impress upon the pupils the importance of religious duties, and their entire dependence on their Maker, the Council of Public Instruction recommends that the daily exercises of each High School and Collegiate Institute be opened and closed by reading a portion of Scripture, and by prayer. The Lord's Prayer alone, or the Forms of Prayer hereto annexed, may be used, or any other prayer preferred by the Trustees and Head-Master of each school. But the Lord's Prayer shall form part of the opening exercise, and the Ten Commandments be taught to all the pupils, and be repeated at least once a week. But no pupil should be compelled to be present at these exercises against the wish of his parent or guardian, expressed in writing to the Head-Master of the school.

FORMS OF PRAYER:

(BEFORE ENTERING UPON THE BUSINESS OF THE DAY.)

Let us Pray.

O Lord, our Heavenly Father, Almighty and Everlasting God, who hast safely brought us to the beginning of this day, defend us in the same by Thy mighty power; and grant that this day we fall into no sin, neither run into

* High and Public Schools united are subject to the following regulations, affecting holidays and vacations in High Schools. In order also to enable the Education Department to make an equitable apportionment to Roman Catholic Separate Schools in cities, towns and villages where united High and Public Schools exist, it is required that both the Public and Separate Schools shall observe the regulations affecting holidays and vacations in High Schools.

any kind of danger, but that all our doings may be ordered by Thy governance, to do always that is righteous in Thy sight, through Jesus Christ our Lord. *Amen.*

O Almighty God, the Giver of every good and perfect gift, the Fountain of all wisdom, enlighten, we beseech Thee, our understandings by Thy Holy Spirit, and grant that whilst, with all diligence and sincerity, we apply ourselves to the attainment of human knowledge, we fail not constantly to strive after that wisdom which maketh wise unto salvation; that so through Thy mercy we may daily be advanced both in learning and godliness, to the honour and praise of Thy Name, through Jesus Christ our Lord. *Amen.*

Our Father, which art in Heaven; hallowed be Thy name; Thy kingdom come; Thy will be done on earth, as it is in Heaven: give us this day our daily bread; and forgive us our trespasses, as we forgive them that trespass against us; and lead us not into temptation; but deliver us from evil; for Thine is the kingdom, the power, and the glory, for ever and ever. *Amen.*

The Grace of our Lord Jesus Christ, and the Love of God, and the Fellowship of the Holy Ghost, be with us all evermore. *Amen.*

(AT THE CLOSE OF THE BUSINESS OF THE DAY.)

Let us Pray.

Most merciful God, we yield Thee our humble and hearty thanks for Thy fatherly care and preservation of us this day, and for the progress which Thou hast enabled us to make in useful learning; we pray Thee to imprint upon our minds whatever good instructions we have received, and to bless them to the advancement of our temporal and eternal welfare; and pardon, we implore Thee, all that Thou hast seen amiss in our thoughts, words, and actions. May Thy good Providence still guide and keep us during the approaching interval of rest and relaxation, so that we may be prepared to enter on the duties of the morrow with renewed vigour both of body and mind; and preserve us, we beseech Thee, now and forever, both outwardly in our bodies, and inwardly in our souls, for the sake of Jesus Christ, Thy Son, our Lord. *Amen.*

Lighten our darkness, we beseech Thee, O Lord; and by Thy great mercy, defend us from all perils and dangers of this night, for the love of Thy only Son, our Saviour, Jesus Christ. *Amen.*

Our Father, which art in Heaven, hallowed be Thy name; Thy kingdom come; Thy will be done on earth, as it is in Heaven; give us this day our daily bread; and forgive us our trespasses, as we forgive them that trespass against us; and lead us not into temptation; but deliver us from evil; for Thine is the kingdom, the power, and the glory, for ever and ever. *Amen.*

The Grace of our Lord Jesus Christ, and the Love of God, and the Fellowship of the Holy Ghost, be with us all evermore. *Amen.*

IV. Weekly Religious Instruction by the Clergy of each Persuasion.

1. In order to correct misapprehension, and define more clearly the rights and duties of trustees and other parties in regard to religious instruction in connection with the High Schools and Collegiate Institutes, it is decided by the Council of Public Instruction that the clergy of any persuasion, or their authorized representatives, shall have the right to give religious instruction to the pupils of their own church, in each school-house, at least once a week, after the hour of four o'clock in the afternoon; and if the clergy of more than one persuasion apply to give religious instruction in the same school-house, the trustees shall decide on what day of the week the school-house shall be at the disposal of the clergyman of each persuasion, at the time above stated. But it shall be lawful for the trustees and clergyman of any denomination to agree upon any hour of the day at which a clergyman, or his authorized representative, may give religious instruction to the pupils of his own church, provided it be not during the regular hours of the school.

V. Duties of High School Inspectors.

[NOTE.—No High School Inspector shall, during his incumbency, hold any office or perform any other duties than those assigned to, or prescribed for him, without the permission of the Council of Public Instruction.]

1. The High School law requires the Inspectors of High Schools to perform such duties as may be prescribed for them by the Council of Public Instruction. These regulations are as follows:

2. *The Inspector's Full Time to be Employed.*—Each Inspector shall devote the whole of his time to the duties of his office as Inspector, or member of the Central Committee of Examiners, if appointed thereto, except during the intervals of his visits to the schools or during the school holidays and vacations.

3. *The Inspectors* shall, under direction of the Chief Superintendent, perform such duties as devolve upon them by the School Law and these Regulations, with such additional duties as may be required of them by the Council of Public Instruction. They shall visit the schools as directed by the Council, and, in their visitations, shall be governed by the following regulations:—

4. *Visitation of Schools.*—Each Inspector shall visit every High School and Collegiate Institute in the section of the Province which may be assigned to him from time to time by the Chief Superintendent of Education at least once during each half-year. He shall also visit the Separate Schools (under such instructions as the Separate School law authorizes), and shall also visit the principal Public Schools in cities, towns and villages, to see how far the official Programme and Regulations are carried out in these schools. He shall devote a day or more to the examination of the classes and pupils in each school, and shall record the result of such examination in a book to be kept for that purpose. (See regulation 6 of this chapter.) He shall also make enquiry and examination, in such manner as he shall think proper, into all matters affecting the condition and operations of the school, the results of which he shall record in a book, and transmit it, or a copy thereof, on completing his inspection, to the Education Department; (but he shall not give any previous notice to the master or trustees of his visit.) He shall also prepare and transmit to the

Chief Superintendent such confidential or other reports as the Chief Superintendent may require, in such form and manner as the Superintendent may direct. The subjects of examination and inquiry at each school visited shall be as follows:

(a) *Mechanical arrangements.*—The tenure of the property; the materials, dimensions and plan of the building; its condition; when erected; with what funds built; how lighted, warmed and ventilated; if any class rooms are provided for the separate instruction of part of the children; if there is a lobby, or closet, for hats, cloaks, bonnets, book-presses, &c.; how the desks and seats are arranged and constructed; what arrangements for the teacher; what play-ground is provided;* what gymnastic apparatus (if any); whether there be a well, and proper conveniences for private purposes; and if the premises are fenced or open on the street or road; if shade trees and any shrubs or flowers are planted.

[NOTE.—In his enquiries into these matters, the Inspector is especially directed to see whether the law and regulations have been complied with in regard to the following matters; (should he discover remissness in any of them, he should at once call the attention of the trustees to it, before reporting the facts to the Chief Superintendent with a view to its remedy before his next half-yearly visit.)

(1). *Size of the site.*—As to the size of the school site, as prescribed by the regulations.

(2). *School Accommodation.*—Whether the trustees have provided "*adequate accommodation for all children attending the school,*" as required by the regulations.

(3). *Space for Air.*—Whether the required space of nine square feet for each pupil, and the average space for one hundred cubic feet of air for each pupil have been allowed in the construction of the school-house and its class rooms.—See regulations.†

(a). *Well; Proper Conveniences.*—Whether a well or other means of procuring water is provided; also, whether there are proper conveniences for private purposes of both sexes on the premises; and whether the regulations in regard to them contained in regulation 6 of the "*Duties of Masters,*" and regulation 9 of the "*Duties of Trustees*" are observed.

(b). *Means of Instruction.*—He shall see whether the authorized text books are used in the several classes, under the heads of Reading, Arithmetic, Geography, &c.; whether sufficient and suitable apparatus are provided, as Tablets, Maps, Globes, Blackboards, Models, Cabinets, &c.

(c). *Organization.*—Arrangement of classes; whether each child is taught by the same teacher; if the assistant or assistants required by law are employed; to what extent; how remunerated, and how qualified.

(d). *Discipline.*—Methods of instruction and attainments of the pupils in the various subjects of the programme.

(e). *Miscellaneous.*—How many pupils have been admitted to the High School during the year. 2. Whether a visitor's book and register are kept, as required by law. 3. Whether the *Journal of Education* is regularly received by the trustees. 4. Whether the pupils have been examined before being admitted to the school, and arranged in classes, as prescribed by the regulations; and whether the required public examinations have been held. 5. What prizes or other means are offered to excite pupils to competition and study; and whether the merit system of cards issued by the Department is employed. 6. *Library.*—Is a library maintained in the school; number of volumes taken out during the year; are books covered and labelled as required; are books kept in library case; is catalogue kept for reference by applicants; are fines duly collected, and books kept in good order; are library regulations observed. 7. How far the course of studies and method of discipline prescribed according to law have been introduced, and are pursued in the school; and such other information in regard to the condition of the schools as may be useful in promoting the interests of High Schools generally."

5. *Authority of an Inspector in a School.*—The authority of an Inspector in a school, while visiting it, is supreme; the Masters, Teachers and pupils, are subject to his direction; and he shall examine the classes and pupils, and direct the Masters or Teachers to examine them, or to proceed with the usual exercises of the school, as he may think proper, in order that he may judge of the mode of teaching, management and discipline in the school, as well as of the progress and attainments of the pupils.

6. *Procedure in the Visitation of Schools.*—On entering a school, with a view to its inspection, and having courteously introduced himself to the masters (if a stranger), or, if otherwise, having suitably addressed them, the Inspector shall:

(a).—note in the Inspector's book, the time of his entrance, and on leaving, the time of departure from the school.

(b).—see whether the business going on corresponds with that assigned to that particular hour on the time table of the school, and generally whether the arrangements which it indicates agree with the prescribed programme of studies, and are really carried out in practice. If not, he should at once privately notify the Head Master or Teacher of the omission, and the penalty for neglect to observe the regulations.

(c).—examine the registers and other school records, and take notes of the attendance of pupils, number of classes in the schools at the time of his visit, &c.

(d).—observe the mode of teaching, the management of the school, and generally its tone and spirit; also whether the bearing, manner, and language of the teacher, his command over the pupils, and their deportment at the time of his visit are satisfactory.

* *Size of School Grounds.*—The school grounds should allow the school-house to be set well back from the road, and furnish play-grounds within the fences. A convenient form for school grounds will be found to be an area of ten rods front by sixteen rods deep, with the school-house set back four or six rods from the road. The grounds should be strongly fenced; the yards and outhouses in the rear of the school-house being invariably separated by a high and tight board fence; the front grounds being planted with shade trees and shrubs.

† *Ventilation becomes easy as soon as it is known that it is embraced in these two essential operations, viz: 1st, to supply fresh air; 2nd, to expel foul air.* It is evident that fresh air cannot be crowded into a room unless the foul air is permitted to pass freely out; and certainly the foul air will not go out unless fresh air comes in to fill its place. It is useless to open ventilating flues when there is no means provided to admit a constant supply of fresh air from without.

Temperature.—In winter the temperature during the first school hour in the forenoon or afternoon should not exceed 70°, nor 66° during the rest of the day.

7. *Intercourse with Teachers and Pupils.—Inspection.*—In his intercourse with Masters and Teachers, and during his visit to their schools, the Inspector should treat them with kindness and respect, counselling them privately on whatever he may deem defective or faulty in their manner and teaching.

8. *Check against incorrect Returns.*—The half-yearly return of the pupils' names, and number of days on which they attended during each month, will be a check against false or exaggerated returns; as the Inspector can in his visit to any school examine the school register and make any further enquiries he may deem necessary. He should also, at his visits to the school, take notes in his book of the school attendance, &c. Schools using unauthorized text books are not entitled to be paid any part of the fund; and the Council has given notice that it "disapproves of the use, in any High or Public School, of any text book which is not included in the list of text books authorized by it, as provided by law."

VI.—High School Accommodations.

No High School or Collegiate Institute shall be entitled to receive any grant unless suitable accommodations shall be provided for it.

The school or institute should have:—

- (1.) A site of an acre in extent, but not less than half an acre.
- (2.) A school-house (with separate rooms where the number of pupils exceeds fifty), the walls of which shall not be less than ten feet high in the clear, and which shall not contain less than nine square feet on the floor for each child in attendance, so as to allow an area in each room for at least one hundred cubic feet of air for each child. It shall also be sufficiently warmed and ventilated, and the premises properly drained.
- (3.) A sufficient fence or paling round the school premises.
- (4.) A play ground, or other satisfactory provision for physical exercise, within the fences, and off the road.
- (5.) A well, or other means of procuring water for the school.
- (6.) Proper and separate offices for both sexes, at some little distance from the school-house, and suitably enclosed.
- (7.) Suitable school furniture and apparatus, viz.: desks, seats, blackboards, maps, library, presses and books, etc., necessary for the efficient conduct of the school. (See also note to (a) of regulation 4, of the "*Duties of Inspectors.*")

VII.—Powers and Duties of Head Masters and Teachers of High Schools and Collegiate Institutes.

1. *Number of Teachers.*—In every High School there shall be, as required by law, and as necessary to teach the subjects of the prescribed programme of studies, a Head Master and one or more duly qualified teachers employed.

[NOTE.—*Designation.*—The chief teacher employed in any High School shall be designated and known as the *head master*, and the others shall be named first, second, or third, &c., *assistant teacher*. For qualifications of the assistants, see *Note to Duties of Assistant Teachers.*]

(1.) POWERS AND DUTIES OF HEAD MASTERS OF HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

Authority as a Public Officer.—The Head Master of every High School or Collegiate Institute is a public officer, and, as such, shall have power, and it shall be his duty to observe and enforce the following rules:—

1. *See that the Rules are observed.*—He shall see that these general rules and regulations, and any special rules (not inconsistent with them) which may be approved by the trustees for their respective schools, are duly and faithfully carried out, subject to appeal, in case of dissatisfaction, to the Inspector.

2. *Prescribe Duties of Teachers.*—He shall prescribe (with the assent of the trustees) the duties of the several teachers in his school, but he shall be responsible for the control and management of the classes under their charge.

3. *Power to Suspend Pupils.*—He shall suspend (subject to appeal, by the parent or guardian, to the trustees,) any pupil, for any of the following reasons:

- (a.) Truancy persisted in.
- (b.) Violent opposition to authority.
- (c.) Repetition of any offence after notice.
- (d.) Habitual and determined neglect of duty.
- (e.) The use of profane or other improper language.
- (f.) General bad conduct, and bad example, to the injury of the school.
- (g.) Cutting, marring, destroying, defacing, or injuring any of the High School property, such as buildings, furniture, fences, trees, shrubbery, seats, &c.; or writing any obscene or improper words on the fences, privies, or any part of the premises; provided that any master suspending a pupil for any of the causes above named shall, immediately after such suspension, give notice thereof, in writing, to the parent or guardian of such pupil, and to the trustees, in which notice shall be stated the reason for such suspension; but no pupil shall be expelled without the authority of the trustees. [See also regulation 2 of the "*Additional Duties of Masters and Assistant Teachers,*" which also applies to Head Masters.]

4. *Expulsion of Pupils.*—When the example of any pupil is very hurtful to the school, and in all cases where reformation appears hopeless, it shall be the duty of the Head Master, with the approbation of the trustees, to expel such pupil from the school. But any pupil under public censure, who shall express to the master his regret for such a course of conduct, as openly and explicitly as the case may require, shall, with the approbation of the trustees and master, be re-admitted to the school.

5. *Care of School Property.*—He shall exercise the strictest vigilance over the High School property under his charge, the building, outhouses, fences, &c., furniture, apparatus, and books, belonging to the school, so that they may receive no injury; and give prompt notice, in writing, to the trustees, of any repairs which may require to be made to the building, premises, or furniture, &c., and of any furniture or supplies which may be required for the school.

6. *Regulations in regard to School Premises, &c.*—The Trustees having made such provision relative to the school house and its appendages, as provided in the regulations relating to school accommodation, it shall be the duty of the Master to give strict attention to the proper ventilation and temperature,* as well as to the cleanliness of the school-house; he shall also prescribe such rules for the use of the yard and outbuildings connected with the school-house, as will insure their being kept in a neat and proper condition; and he shall be held responsible for any want of cleanliness about the premises.

7. *School open for Pupils.*—Care must be taken to have the school-house ready for the reception of pupils at least fifteen minutes before the time prescribed for opening the school, in order to afford shelter to those who may arrive before the appointed hour. [See regulation 13, "*Duties of Assistant Teachers.*"]

8. *Out Premises.*—He shall see that the yards, sheds, privies, and other out-buildings are kept in order, and that the school-house and premises are locked at all proper times; and that all deposits of sweepings, from rooms or yards, are removed from the premises.

9. *Fires and Sweeping.*—He shall employ, at a compensation to be fixed by the trustees, a suitable person to make fires, to sweep the rooms and halls daily, and dust the windows, walls, seats, desks, and other furniture in the same; but no assistant teacher or pupil shall be required to perform such duty, unless voluntarily, and with suitable compensation.

10. *Librarian.*—He shall, with the consent of the Trustees, appoint the librarian of the school, who shall take charge of the books; also make and preserve a catalogue of the same; deliver, charge, receive, and credit the volumes given out, and keep a register of the same; number, label and catalogue the books; and make returns of the library, its books, &c., as required by the library regulations.

11. *The Library.*—He shall see that the library is kept open for the distribution (and return) of books to their scholars, and ratepayers of the High School district or division, on Friday afternoon of each week; but this duty shall not be permitted to interfere with the regular exercises of the school.

12. *Reports.*—He shall make the necessary term, special, or annual reports to the Trustees, or to Chief Superintendent, at such times and in such manner as may be required.

13. *General Register.*—He shall keep the general and other registers of the school (to be furnished by the Trustees), in which shall be entered, in each term, the date of the admission of each pupil, his or her name and age, from whence received; the parent's or guardian's name and residence; the names of each of the classes in the school, together with the names of the pupils in each such classes; the promotion of pupils from one class to another; record of attendance of the pupil; date of his leaving the school, and destination, both as to place and occupation; and such other information as shall at all times give a correct idea of the condition of the school.

14. *Religious Exercises—Ten Commandments.*—He shall see that the regulations in regard to *Opening and Closing Exercises of the Day* (Chapter III.) are observed, and that the Ten Commandments are duly taught to all the pupils and repeated by them once a week.

15. *Examinations for scholarships, exhibitions and prizes,* which may have been instituted, shall be conducted by the Head Master, but the High School Board may, if they shall think proper, associate other persons with the Head Master in the examinations for such scholarships, exhibitions or prizes.

16. A Report of the progress and conduct of each pupil shall be furnished to his parent or guardian, monthly, by the Head Master.

(2.) DUTIES OF ASSISTANT TEACHERS.

[NOTE.—*Qualification of Assistant Teachers.*—No assistant teacher shall be employed in a High School who does not possess a legal certificate "of qualification, of the first or second class prescribed for public school masters and assistants, or a certificate that he is a graduate (who proceeded regularly to his degree) or an undergraduate in the Faculty of Arts of good standing in some University in the British Dominions. But this regulation shall not be held to apply to teachers of the special subjects of French, German, drawing, vocal music, gymnastics or calisthenics.]

The teacher of each class or department shall observe the following regulations:—

1. *Pupils.*—He shall give the children under his charge constant employment in the studies prescribed in the authorized programme; and endeavour, by judicious and diversified modes, to render the exercises of the school pleasant, as well as profitable.

2. *Regulations.*—He shall read, or cause to be read, to his class, at least once in each quarter, (or otherwise inform the pupils of) so much of the regulations as shall be necessary to give them a proper understanding of the rules by which they are governed.

3. *Register.*—He shall keep the daily register (provided by the Education Department), which shall remain the property of the Trustees, in which shall be entered the names and daily attendance of pupils, their proficiency in various studies, and other information.

4. *Returns.*—He shall make such returns, and at such times, as may be required by the Head Master, Inspector, or Trustees, relating to his class, school or department.

* See note to (a) of regulation 4 of the "*Duties of Inspectors.*"

(3.) ADDITIONAL DUTIES OF MASTERS AND TEACHERS.

It shall also be the duty of each Head Master and teacher of a High School or Collegiate Institute to observe the following regulations:—

1. *General Principles of Government.*—Masters and teachers are to evince a regard for the improvement and general welfare of their pupils; treat them with kindness, combined with firmness, and aim at governing them by their affections and reason, rather than by harshness and severity. Teachers shall also, as far as practicable, exercise a general care over their pupils in and out of school, and shall not confine their instruction and superintendence to the usual school studies, but shall, as far as possible, extend the same to the mental and moral training of such pupils, to their personal deportment, to the practice of correct habits and good manners among them, and to omit no opportunity of inculcating the principles of TRUTH and HONESTY, the duties of respect to superiors, and obedience to all persons placed in authority over them.*

2. *Discipline.*—They shall practise such discipline in the school, class or department, as would be exercised by a kind, firm, and judicious parent in his family. It is strictly enjoined upon all teachers in the schools to avoid the appearance of indiscreet haste in the discipline of their pupils; and, in any difficult cases which may occur, to apply to the Head Master, Inspector, or to the Trustees (as the case may be) for advice and direction.

3. *Merit Cards—Prizes.*—In all the schools, the series of Merit Cards, prepared and authorized by the Education Department, shall be regularly used; and if prizes are given, it must be on the principles laid down in that series of cards.

4. *State of Feeling among Pupils.*—They shall cultivate kindly and affectionate feelings among the pupils; discourage quarrelling, cruelty to animals, and every approach to vice.

5. *Absence.*—No master or teacher shall be absent from the school in which he or she may be employed, without permission of the trustees, except as provided in No. 9, below, or in case of sickness, in which case the absence of such teacher shall be immediately reported to the trustees; and no deduction from the salary of a teacher shall be made on account of sickness, as certified by a medical man.†

6. *Subscriptions, Collections, Presents, &c.*—No collection shall be taken up, or subscriptions solicited for any purpose, or notice of shows, or exhibitions given in any High School or Collegiate Institute, without the consent of the trustees; nor shall the Head Masters or teachers act as agents for books, or sell stationery, &c., or receive presents (unless presented to them on leaving the school), nor award, without the permission of the trustees, medals or other prizes of their own to the pupils under their charge.

7. *Teachers' Meetings.*—The Head Master and teachers of a High School, or Collegiate Institute (where there are at least two, in addition to the Head Master), shall regularly attend the teachers' meetings each month, and at such other times as the Head Master shall direct; and they shall by conference, study, recitations and general exercises, strive to systematize and perfect the modes of discipline and of teaching in the High School. Where there are only a Head Master and an assistant teacher, they shall confer together from time to time on the subject.

8. *Teaching.*—They shall classify the children according to the books used; study those books themselves, and teach according to the improved method recommended in their prefaces. In giving out the lessons for the next day, difficult parts should be explained, and where necessary the best mode of studying them pointed out.

9. *Visiting Schools.*—The Chief Superintendent may permit a Head Master to be absent two of the ordinary teaching days in each half-year, for the purpose of visiting and observing the methods of classification, teaching and discipline practised in other schools than that in which he teaches.

[NOTE.—Each High School Master and teacher must give at least three days' notice to the trustees; and, in addition, the High School Master must communicate with the Education Department, and obtain the Chief Superintendent's consent, so that he may not be absent during the visits of the Inspector to his school. In order that no loss of apportionment may accrue to any school in consequence of the Head Master's absence under this regulation, a proportionate amount of average attendance will be credited to the school for the time so employed by the teacher; but under no circumstances can lost time be lawfully made up by teaching on any of the prescribed holidays or half-holidays, nor will such time be reckoned by the Department.]

10. *Time-Table.*—They shall keep in some conspicuous place in the school-room a Time-table, showing the order of exercises for each day in the week, and the time for each exercise, as prescribed in the programme of studies for High Schools.

11. *Classes.*—The division of pupils into classes, as prescribed by the programme, shall be strictly observed; and no teacher shall be allowed to take his or her class beyond the limits fixed for the classes taught by such teachers, without the consent of the Head Master or Inspector, except for occasional reviews; but individual pupils, on being qualified, may, with the consent of the Head Master, be advanced from a lower to the higher class.

12. *Quarterly Examination.*—Each class in every school shall be open for public examination and inspection during the last week of every half-year, and the Head Master or teacher shall call upon every pupil in the school, unless excused, to review or recite in the course of such examination.

13. *In School at 8½ A.M., &c.*—All teachers shall be in their respective schools, and open their rooms for the reception of pupils, at least fifteen minutes in the morning, and five minutes in the afternoon, before the specified time for beginning school; and during school hours they shall faithfully devote themselves to the duties of their office.

14. *Visitors' Book.*—They shall keep the visitors' book (which is required by law to be furnished by the trustees), in which shall be entered the dates of visits and names of visitors, with such remarks as they may choose to make.

* The following are modes to be adopted or avoided:—

(a) *Proper.*—Reproof kindly but firmly given, either in private or before the school, as circumstances require it, or such severe punishment as the case really warrants, administered as directed in the above regulation.

(b) *Improper.*—Contemptuous language, reproof administered in passion, personal indignity or torture, and violation of the laws of health.

† The trustees may allow any period beyond four weeks in the entire year, for absence on account of sickness.

15. *Visitors.*—They shall receive courteously the visitors to the school, and afford them every facility for inspecting the books used, and examine into the state of the school; shall keep the visitors' book accessible, that the visitors may, if they choose, enter remarks in it. The frequency of visits to the school by intelligent persons animates the pupils, and greatly aids the faithful teacher.

VIII.—Duties of Pupils of High Schools and Collegiate Institutes.

1. *Cleanliness and Good Conduct.*—Pupils must come to school clean and neat in their persons and clothes. They must avoid idleness, profanity, falsehood and deceit, quarrelling and fighting, cruelty to dumb animals; be kind and courteous to each other, obedient to their instructors, diligent in their studies, and conform to the rules of their school.

2. *Tardiness* on the part of pupils shall be considered a violation of the rules of the school, and shall subject the delinquents to such penalty as the nature of the case may require, at the discretion of the master.

3. *Leaving before Closing.*—No pupil shall be allowed to depart before the hour appointed for closing school, except in case of sickness, or some pressing emergency; and then the master or teacher's consent must first be obtained.

4. *Absence.*—A pupil absenting himself from school, except on account of sickness, or other urgent reasons satisfactory to the Head Master, forfeits his standing in the class, and his right to attend the school for the remainder of the quarter.

5. *Excuses.*—Any pupil not appearing at the regular hour of commencing any class of the school which he may be attending, without a written excuse from his parent or guardian, may be denied admittance to such school for the day or half-day, at the discretion of the Head Master.

6. *Punctual Attendance.*—Every pupil, once admitted to school, and duly registered, shall attend at the commencement of each term, and continue in punctual attendance until its close, or until he is regularly withdrawn by notice to the Head Master to that effect; and no pupil violating this rule shall be entitled to continue in such school, or be admitted to any other, until such violation is certified by the parents or guardians to have been necessary and unavoidable, which shall be done personally or in writing.

7. *Class to Attend.*—Pupils shall be required to attend any particular class which may be designated for them by the Head Master, with the consent of the Inspector.

8. *Absence from Examination.*—Any pupil absenting himself from examination, or any portion thereof, without permission of the Head Master, shall not thereafter be admitted to school, except by authority of the Inspector in writing; and the names of all such absentees shall be reported by the Head Master immediately to the trustees; and this rule shall be read to the school just before the examination days at the close of each quarter.

9. *Going to and from School.*—Pupils shall be responsible to the Head Master for any misconduct on the school premises or in going to or returning from school, except when accompanied by their parents or guardians, or some person appointed by them.

10. *Supply of Books.*—No pupil shall be allowed to remain in the school unless he is furnished with the books and requisites required to be used by him in the school; but in case of a pupil being in danger of losing the advantages of the school, by reason of his inability to obtain the necessary books or requisites, through the poverty of his parent or guardian, the trustees have power to procure and supply such pupil with the books and requisites needed.

11. *Fees for Books.*—The fees for tuition, or books and stationery, &c., as fixed by the trustees, whether monthly or quarterly, shall be payable in advance; and no pupil shall have a right to enter or continue in the school until he shall have paid the appointed fee.

12. *Property Injured.*—Any property of the schools that may be injured or destroyed by pupils, must be made good forthwith by the parent or guardian, under a penalty of the suspension of the delinquent pupil. (See (g) of regulation 3 of the "*Powers and Duties of Head Masters.*")

13. *Contagious Diseases.*—No pupil shall be admitted to, or continue in, any of the High Schools who has not been vaccinated, or who is afflicted with, or has been exposed to, any contagious disease, until all danger of contagion from such pupil, or from the disease or exposure, shall have passed away, as certified in writing by a medical man.

14. *Effects of Expulsion.*—No pupil shall be admitted to any High School who has been expelled from any school, unless by the written authority of the Inspector. (See regulation 4, *Duties of Head Masters.*)

15. *Certificate on Leaving.*—Every pupil entitled thereto shall, when he leaves, or removes from a school, receive a certificate of good conduct and standing, in the form prescribed, if deserving of it.

IX.—Admission of Pupils to the High Schools.

1. *Admission of Pupils.*—The School Law of 1871, sect. 38, provides that "the County, City or Town Inspector of Schools, the Chairman of the High School Board and the Head Master of the High School shall constitute a Board of Examiners for the admission of pupils to the High School, according to the regulations and programme of examination provided according to law; and it shall be the duty of the Inspector of High Schools to see that such regulations are duly observed in the admission of pupils to the High Schools."

2. *The Subjects of Examination* for admission to the High Schools or Collegiate Institutes shall be the same as those prescribed for the first four classes of the Public Schools, but for pupils intended for the classical course, the entrance test in *Arithmetic* shall be the standard prescribed for the third class in the Public Schools, and the following subjects of the fourth class shall be omitted, viz.:—Christian Morals, Animal Kingdom, and Elements of Chemistry and Botany.

8. *Uniform Standard of Admission.*—The standard of admission to all the High Schools and Collegiate Institutes shall, as far as practicable, be uniform throughout the Province.

4. *Uniform Examination Questions.*—The Central Committee (appointed by the Council of Public Instruction for the examination of public school teachers) shall prepare from time to time, under the direction of the Council, questions for the examination of pupils for admission to the High Schools and Collegiate Institutes. It is intended, and is to be understood, that the use of the questions prepared and printed under the direction of the Council of Public Instruction is recommendatory only. Where the papers so prepared are not used, questions shall be prepared and confidentially printed by the Local Board of Examiners, who shall have them sealed up until the day of examination. These questions shall embrace all the subjects to the extent prescribed, and shall be of such a character as shall elicit a competent knowledge of those subjects.

5. *Papers to be sent to Local Inspector.*—The examination papers, so prepared, with the value assigned to each question, and directions from the Chief Superintendent of Education, are to be transmitted by the said Chief Superintendent to the Inspector of Public Schools of the city, town or county (as the case may be.)

6. *Numerical Value of Answers.*—The Central Committee will, on the margin of the questions prepared by them, assign a numerical value to each question or part of a question, according to their judgment of its relative importance. Where the questions sent from the Department are not used, the Local Examiners shall, in like manner, assign values to those which they may prepare.

7. *Answers to reach a Minimum Value of 50 per cent.*—In order that a candidate may obtain admission to the High School, or Collegiate Institute, the sum of his marks must amount to at least fifty per cent. of the assigned value of the answers given in margin of the examination questions. The Local Examiners shall give marks for the answers to every question in correspondence with the number assigned to the question, and the completeness and accuracy of the answers.

8. *Viva Voce and Special Examinations in Reading, etc.*—The examination, except in reading, shall be conducted on paper; but the Board of Examiners may subject the candidates to additional *viva voce* examination in such subjects as they may think proper, of the result of which a record and report shall be made.

9. *Parents may decide as to whether Pupils shall go to the High School.*—Although pupils are eligible for promotion from the Public to the High Schools, after passing a satisfactory examination in the subjects of the first four classes of the former, it is at the option of the parents or guardians of pupils whether they shall enter the High School or not before they complete the whole programme of studies in the Public Schools, when they can enter an advanced class in the High School.

10. *Duties of Inspectors.*—The Local Inspector shall be responsible to the Department for the safe keeping, unopened, of the examination papers, until the day of the examination. He shall also, at the close of the examination of candidates for admission, submit the answers of candidates to the Local Board for examination and report. No certificate of admission shall be awarded to a candidate until the High School Inspectors report to the Chief Superintendent that, in their opinion, the candidate has shown a competent knowledge of the subjects in which he was examined, as provided for in these regulations.

11. *Regulations for Examinations.*—The presiding Inspector or Examiner must be punctual in distributing the papers, and in directing the candidates to sign their papers at the close of the allotted time. No writing, other than the signature, should be permitted after the order to sign is given. The candidates are required to be in their allotted places in the room before the hour appointed for the commencement of the examination. If a candidate be not present till after the commencement of the examinations, he cannot be allowed any additional time on account of such absence.

12. *No Information to Candidates.*—Each Examiner, by his consenting to act, binds himself in honour to give no information to candidates, directly or indirectly, by which the examination of that candidate might be affected.

13. *Time and Place of each Examination.*—The examination of candidates for admission to the High School or Collegiate Institute shall be held in such place as may be agreed upon by the Examiners, immediately after the Christmas and Summer Vacations, and at the beginning of the Autumn Term.

14. *Proceedings at each Examination.*—The Local Inspector or one of his colleagues, as appointed, shall preside at the opening of the examination, and at nine o'clock on the morning of the first day, in the presence of such of his colleagues as may be there, and of the candidates, the presiding Examiner shall break the seal of the package of examination papers received from the Department, or appointed for that examination. He shall also break open the seal of each additional packet of examination papers as required, in the presence of a co-examiner and of the candidates. He shall further see that at least one Examiner is present during the whole time of the examination, in each room occupied by the candidates. The Local Board shall, if desirable, appoint one or more of its members (1) to preside at the examination in any of the subjects named in the programme; (2) to read and report upon the answers as they are received.

15. *What Candidates shall do.*—The candidates in preparing their answers will write only on one page of each sheet. They will also write their names on each sheet, and, having arranged their papers in the order of the questions, will fold them once across and write on the outside sheet their names. After the papers are once handed in, the Examiners will not allow any alteration thereof, and the presiding Inspector is responsible for the subsequent safe keeping of the same, until he has sent them to the Education Department, or (in the case of an Examiner) until he has handed them to the Local Inspector.

16. *Irregular Conduct to be Punished.*—In the event of a candidate copying from another, or allowing another to copy from him, or taking into the room any book, notes, or anything from which he might derive assistance in the examination, it shall be the duty of the presiding Examiner, if he obtain clear evidence of the fact at the time of its occurrence, to cause such candidate at once to leave the room; neither shall such candidate be permitted to enter during the remaining part of the examination, and his name shall be struck off the list. If, however, the evidence of

such case be not clear at the time, or be obtained after the conclusion of the examination, the Examiner shall report the case at a general meeting of the Examiners, who shall reject the candidate if they deem the evidence conclusive.

17. *Two Examiners to Act.*—In examining the answers of candidates, it is desirable that at least two Examiners should look over each paper.

18. *Provisional Admission of Pupils.*—All candidates passing a satisfactory examination before the Local Board shall be entitled, on the report of the High School Inspectors, to receive from it a certificate of eligibility for admission, so soon as the High School Inspectors shall have reported thereon, in accordance with Regulation 10; but, in the meantime, the Local Board of Examiners shall have authority to admit provisionally thereto any pupil who shall have passed satisfactorily to them the required examination in the questions, and under the regulations and directions aforesaid.

19. *Admission of Candidates to be Approved.*—The attendance of candidates at a High School or Collegiate Institute will not be credited in making the apportionment to such school or institute unless their admission be favourably reported upon by the High School Inspectors as being agreeable to the regulations; and no pupil shall be continued in any High School or Collegiate Institute who shall not have been reported as having passed the approved preliminary examination for admission, as notified by the Chief Superintendent.

20. *Report to Chief Superintendent.*—The Local Inspector shall prepare a return (in the form provided for that purpose) with respect to each examination, and forward the same, together with the answers of the pupils, to the Chief Superintendent of Education, immediately after the examination, in order that the same may be reported upon to the Chief Superintendent by the High School Inspectors. The Inspectors may, in such report, require from any pupil further tests of proficiency in any subject of the prescribed programme of examinations, by *viva voce* examination or otherwise, at the next visitation of the school.

21. Where the examination papers sent out by the Department are not used (as explained in No. 6 of these Regulations), they are to be returned unopened, together with printed copies of those prepared and used by the Local Board of Examiners. The answers are in all cases to be sent to the Department.

22. *Pupils admitted since August, 1872.*—There having been no regulations or programme in force since August, 1872, as contemplated by law, and great diversity having been found to exist in the number and extent of the subjects, in the character of the questions, in the modes of examination, and in the standards adopted by the Local Boards, the Council directs that pupils admitted to the High Schools or Collegiate Institutes since August, 1872, shall be examined under the present regulations, and their respective admissions be thereupon confirmed or disallowed, as to their continuance in the school, as in the case of new pupils.

23. Pupils entering the High Schools must take either the English or classical course of studies.

24. Pupils shall be arranged in classes corresponding to their respective degrees of proficiency. There may be two or more divisions in each class, and each pupil shall be advanced from one division or class to another, with reference to attainments, without regard to time, according to the judgment of the Head Master; and if any difference take place between the parent or guardian of a pupil and the Head Master, in regard to the advancement of such pupil, the Inspector of the High School shall decide.

25. No departure from the prescribed programme is allowable. Where *options* are authorized, the permission must not be given to any pupil without the recommendation of the Head Master and the sanction of the Board of Trustees.

26. Pupils who have been admitted to the High Schools and Collegiate Institutes must be taught those subjects of the first four classes of the Public School programme with which they are not acquainted.

27. *Stationery to be provided.*—The High School Board will provide the stationery required for conducting the examinations.

28. The High School Inspectors shall, at their visits to the Schools, or otherwise, ascertain and see that the foregoing regulations have been duly and uniformly carried out.

29. The High School Inspectors will meet respecting the admission of the candidates on the receipt of the local reports at the Education Department after the Christmas and Midsummer vacations, and at the beginning of the autumn term, and pupils not then approved will not be reckoned in the apportionment of the grant for the then current half year.

X. Programmes of Course of Study for the High Schools and Collegiate Institutes.

EXPLANATORY MEMORANDA.

1. The fundamental principle of our system of public instruction is, that every youth, before proceeding to the subjects of a higher English or of a classical education, shall first be grounded in the elementary subjects of a Public School education. No candidates are, therefore, eligible for admission to the High Schools except those who have manifested proficiency, by passing a satisfactory examination in the subjects of the first four classes of the Public School programme.

2. The objects and duties of the High Schools are twofold:

First, commencing with pupils who (whether educated in either a public or private school) are qualified as above, the High Schools are intended to complete a good English education, by educating pupils not only for commercial, manufacturing and agricultural pursuits, but for fulfilling with efficiency, honour and usefulness, the duties of Municipal Councillors, Legislators, and various public offices in the service of the country.

The *Second* object and duty of the High Schools (commencing also with pupils qualified as above), is to teach the languages of Greece and Rome, of Germany and France, the Mathematics, &c., so far as to prepare youth for certain professions, and especially for the Universities, where will be completed the education of men for the learned professions, and for Professorships in the Colleges, and Masterships in the Collegiate Institutes and High Schools.

I.—ENGLISH COURSE.

SUBJECT.	FIRST FORM.	SECOND FORM.	THIRD FORM.	FOURTH FORM.
ENGLISH GRAMMAR AND LITERATURE.....	English Grammar, including Etymology. Advanced or Sixth Reader and Collier's History of English Literature.	Collier's History of English Literature. English Grammar, including Etymology.	English Classics (critically and analytically read). Selection No. 1.	English Classics (critically and analytically read). Selection No. 2.
COMPOSITION.....	Practice in writing familiar and business letters.	Practice in composition.	Practice in composition.	Practice in composition.
READING, DICTATION AND ELOCUTION.....	Practice in reading and writing to dictation from first four reading books.	Practice in writing to dictation.	Same as Form II., with elocution.	Elocution.
PENMANSHIP.....	Practice in Penmanship.	Practice in Penmanship.		
LINEAR DRAWING.....	Free hand and map drawing. Outlines of plain and solid figures.	For boys, mathematical drawing; and for girls, shading and landscape.	Drawing of animals, human form, mathematical projection, shading and colouring.	
BOOK-KEEPING, &c.....	Single and double entry.	Single and double entry, commercial forms and usages.	Banking, Custom House, General Business Transactions.	Subject of Form III., and Telegraphy.
ARITHMETIC.....	Practice, Proportion, Interest, simple and compound.	Discount, Stocks, Exchange, Involvement and Evolution, Scales of Notation.	General	Review.
ALGEBRA.....	Definitions and first 17 exercises of authorized text-book.	To end of quadratic equations.	Authorized text-book, to end of Section XIV.	To end of authorized text-book.
GEOMETRY.....	Euclid, Book I.*	Books II. and III.†	Book IV., with principles Book V.	Book VI., with review of whole subject.
LOGIC.....			Easy lessons in Reasoning, Part I. to p. 71.	Easy lessons in Reasoning, completed.
TRIGONOMETRY.....			Plane Trigonometry, to solution of triangles (inclusive).	Application of Plane Trigonometry.
MENSURATION.....	Definitions, Mensuration of surfaces.	Definitions, Mensuration of surfaces and Solids.		
HISTORY.....	Outlines of English and Canadian History.	Elements of Ancient and Modern History. English and Canadian History continued.	Outlines of History of Greece and Rome.	Outlines of Modern History.
GEOGRAPHY AND ASTRONOMY.....	Political geography, products, &c., of principal countries of the world. Modern (Mathematical, Physical and Political).	Physical Geography of the continents generally. Ancient Geography.	General Review of subject. Use of Terrestrial Globes.	Outlines of Astronomy—Celestial Globes.
NATURAL PHILOSOPHY.	Nature and use of the mechanical powers.	Composition and Resolution of Forces; Centre of Gravity; Moments of Force; Principle of Virtual Velocities and Hydrostatics (Tomlinson).	Pneumatics and Dynamics.	Elements of Electricity and Magnetism.‡
CHEMISTRY AND AGRICULTURE.....	Ryerson's Agriculture, Part I.	Text-book (Ryerson) completed.	Elements of Chemistry.	Elements of Chemistry.
NATURAL HISTORY.....	"How plants grow" (Gray).	Animal kingdom.	General review.	
PHYSIOLOGY.....		Human Physiology (Cutter's).		
CHRISTIAN MORALS.....	Christian Morals.			
ELEMENTS OF CIVIL GOVERNMENT.....				"Elements of Civil Government."

* Girls not in Geometry will take in Form I., Easy Lessons in Reasoning, Part I.

† Girls not in Geometry will take in Form II., Easy Lessons in Reasoning, Part II.

‡ The subjects of Electricity, and Magnetism may be taken up earlier in the course, at the discretion of the Head Master.

II.—CLASSICAL COURSE, WITH FRENCH AND GERMAN.

PRESCRIBED BY THE COUNCIL OF PUBLIC INSTRUCTION FOR ONTARIO, AND APPROVED BY HIS EXCELLENCY THE
LIEUTENANT-GOVERNOR IN COUNCIL.

SUBJECT.	FIRST FORM.	SECOND FORM.	THIRD FORM.	FOURTH FORM.
ENGLISH GRAMMAR & LITERATURE	English Grammar, including Etymology. Advanced or Sixth Reader.	Collier's History of English Literature.	English Classics (critically and analytically read). Selection No. 1.	English Classics (critically and analytically read). Selection No. 2.
COMPOSITION	Practice in writing familiar and business letters.	Practice in composition.	Practice in composition.	Practice in composition.
PENMANSHIP	Practice in penmanship.	Practice in penmanship.		
LINEAR DRAWING	Map and free hand drawing. Outlines of plain and solid figures.	For boys, mathematical drawing; and for girls, shading and landscape.	Drawing of animals, human form, mathematical projection, shading and colouring.	
ARITHMETIC	Practice, Proportion, Interest, simple and compound	Discount, Stocks, Exchange, Involvement and Evolution, Scales of Notation.		
ALGEBRA	Definitions and first 17 exercises of authorized text-book.	To end of quadratic equations.	Authorized text-book, to end of Section XIV.	To end of authorized text-book.
GEOMETRY	Euclid, Book I.*	Books II. and III.†	Book IV., with principles of Book V.	Book VI., with review of the whole subject.
TRIGONOMETRY			Plane Trigonometry, to solution of triangles (inclusive).	Application of Plane Trigonometry.
HISTORY	Outlines of English and Canadian History.	Elements of Ancient and Modern History.	Outlines of History of Greece and Rome.	Outlines of History of Greece and Rome, continued.
GEOGRAPHY AND ASTRONOMY	Political geography, products, &c., of principal countries of the world. Modern (Mathematical, Physical and Political).	Outlines of Ancient Geography (Pillans).	Ancient Geography continued.	
NATURAL HISTORY	"How plants grow," (Gray).	Animal kingdom.	General Review.	
CHRISTIAN MORALS	Christian Morals.			
ELEMENTS OF CIVIL GOVERNMENT				"Elements of Civil Government."
FRENCH§		‡ Pujol, Part I.; or De Fivas' Grammar, with exercises.	Pujol, Part II., with selections from Part IV., or De Fivas' Grammar and Exercises, with Collet's Conversations, and De Fivas' Elementary Reader.	Pujol, Part III., with selections from Part IV., or De Fivas' Grammar and Exercises, with conversations. Voltaire, Hist. de Charles XII. Chaps. VI., VII., VIII. Corneille, Horace, Acts I., II.
GERMAN§		Grammar (Ahn).	Grammar (Ahn), Adler's Reader.	Goethe, Hermann and Dorothea, Canto II.
LATIN	Latin Grammar commenced. Harkness' Introductory Book, or Smith's Principia Latina, Part I.	Latin grammar continued. Arnold's 2nd Latin Book, or Smith's Principia Latina. Harkness Latin Reader.	Cæsar, Virgil, Æneid, Book II. commenced. Latin Prose composition. Prosody commenced.	Cicero (for the Manilian Law). Horace, Odes, Book I. Latin Prose composition. Prosody continued.
GREEK		Greek Grammar commenced. Harkness 1st Greek Book, or Smith's Initia Græca.	Greek Grammar continued. Harkness or Smith continued. Lucian, Charon.	Lucian, Life. Homer, Iliad, B. I.

* Girls not in Geometry will take in Form I., Easy Lessons in Reasoning, Part I.

† Girls not in Geometry will take in Form II., Easy Lessons in Reasoning, Part II.

‡ It is proposed that before its being introduced into the schools, the Pujol shall be published in separate parts.

§ The German and French languages are optional.

Provision is not made in the programme for the Honour work in the Universities, as pupils intended for honours will require special arrangements.

II. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for MAY, 1873.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—J. M. Buchanan, Esq., M.A.; Simcoe—Don C. Sullivan, Esq., LL.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	ELEVATION. Above the Sea.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT.										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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* Gauge leaky.

Where the clouds have contrary motions, the higher current is entered here.
Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

REMARKS.

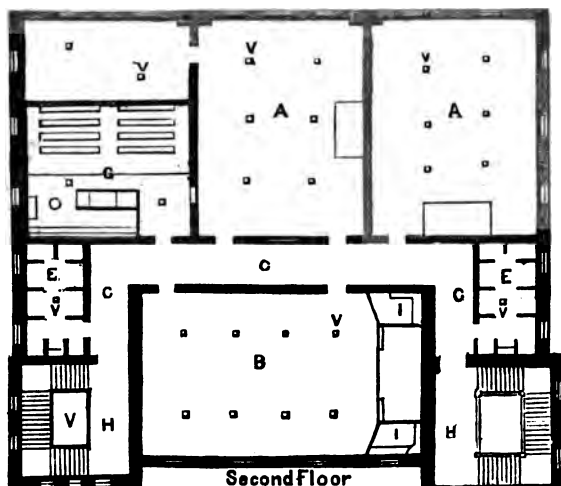
PETERBOROUGH.—Rain, 12th, lightning, thunder, 12th. Lightning, with rain, 23rd. Shooting star, 22nd, 28th. Corona over streamers shot up from 11 to 30° on 28th. Frost, 13th—15th, 28th, 29th. Wind storms, 8th, 9th, 13th, 14th, 23rd, 24th, 28th. Rain, 2nd, 8th, 9th, 11th, 12th, 20th, 22nd, 23rd, 27th, 28th. Month unusually dry and windy. Spring beauty, crowfoot, hepatics, bloodroot, daffodil, trillium, and shepherd's purse in bloom by 10th. Maple leaves, 24th.

BELLEVILLE.—Lightning, 23rd. Wind storms, 9th, 24th. Rain, 2nd, 10th, 12th, 13th, 29th.

GODERICH.—Lightning and thunder, with rain, 22nd. Rain, 1st, 2nd, 7th—12th, 20th, 22nd, 26th—28th.

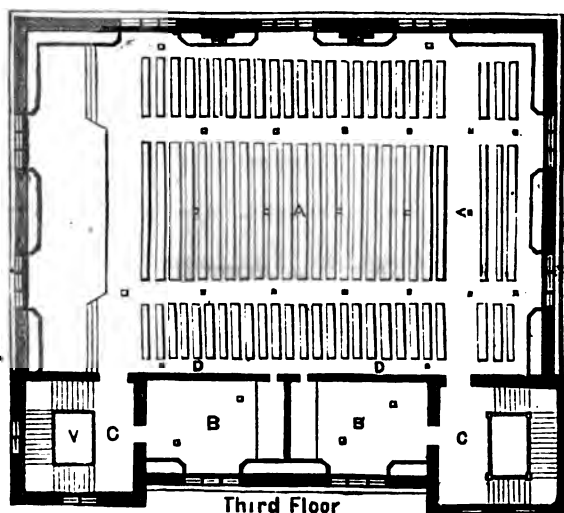
STRATFORD.—Lightning, 12th, 20th. Rain, 11th. Lightning and thunder, with rain, 20th, 24th, 15th, 17th, 30th, 31st. Rain, 1st, 2nd, 7th—12th, 20th, 24th. Plum trees in blossom, 24th.

seat 60 pupils, rise in four tiers upon platforms 8 inches high. In the rear of the laboratory, but not connecting with it, is a large recitation-room, 16 by 30 feet. For the pupils in the second story two wardrobe-rooms are provided, 21 by 11 feet, and of full height, furnished in all respects like those below. The third story, which is in the Mansard roof, is occupied chiefly by the hall or chapel, a large room, 60 by 87 feet, and 22 in height, used every morning for devotional exercises, and many times a week for other purposes. It is capable of seating 800 to 1000 persons, and will therefore be useful on public occasions, such as graduation-day, &c. The roof is supported by six trusses, and a large ventilator opens directly to the external air, to be used whenever other means of ventilation are not sufficient. In this room are cabinets of minerals and shells, and connecting with it, as well as with the stairways, are two recitation-rooms, each 16 by 25 feet.



A, A, Third Class Rooms. B, Junior Class Room. C, C, Corridors. E, F, Wardrobe Rooms. G, Laboratory. H, H, Staircase Halls. I, I, Philosophical Apparatus. V, Ventilating Shaft. v, v, Ventilating Registers.

All the partitions from the basement to the third story are of solid brick, and as the two stairways and the various corridors are enclosed within brick walls, the building may be regarded as quite secure against possible danger to the pupils or a crowded assembly in case of fire. The floors also are made partly fire-proof by a thick layer of laths and deafening mortar. The interior of each room is fitted with inside blinds and moulded back linings, and the walls are prepared with slated black-boards. The entire inside finish of the building for doors, windows, wall-lining, &c., is of soft brown ash. The wood is gummed to fill the grain and then oiled. The floors are of southern pine. The corridors are 8 feet, and the stairways 6 feet wide, the latter of easy ascent, well lighted, and strongly built. Four of the session-rooms have windows opening into the corridors, by which a more free circulation of air can be secured when necessary, the lower sashes only having ground glass.



A, Large Hall. B, B, Recitation Rooms. C, C, Staircase Halls. D, D, Cabinets. V, Ventilating Shaft. v, v, Ventilating Registers.

VENTILATION.

In the south tower of the building is a ventilating shaft, 8 feet square, reaching from basement to roof, open to the sky, and kept warm by a small furnace, the smoke-pipe of which passes centrally through the entire length of the shaft. To insure perfect security against fire, the shaft is lined with corrugated iron. Leading into this main shaft are large ventiducts, 3 by 8 feet, one for each story, constructed of smoothly-planed boards; and every room in the building is connected with one of these ventiducts by several ventilating flues, 10 by 12 inches, opening downward through registers in the floor. Under each school-room there are six or more of such flues, and under the large hall twenty-four. Upon placing a smoking match, or anything of the kind, near one of these registers, it is found that the air is constantly and rapidly passing out through them. Still further to promote ventilation by allowing the air to escape from near the top of the room, as well as through the floor, swivel-blinds are placed over all the doors, through which the air passes freely into the corridors, and up the stairways into the assembly-room, where there are large ventilators in the ceiling, which can be opened or closed at pleasure, and which lead directly to one large ejector placed at the highest point of the roof.

ARRANGEMENT OF ROOMS.

The building is designed to accommodate 409 scholars, distributed as follows:—

Fourth Class, in three rooms, (56, 56, 54,).....	166
Third Class, in two rooms, (56, 54,).....	110
Junior Class, in one room,.....	77
Second Class, in one room,.....	56

Total number,..... 409

By a careful examination of the records of the school for many years past, it was ascertained that these figures express quite accurately the ratio of decrease from the lowest class to the highest.

FURNITURE.

Each school-room is furnished with 56 single desks and chairs of solid oak, the desks having lids falling upon rubber; with teacher's platform, desk and chairs; waste-basket, step-ladder, clock, and thermometer; also with recitation-benches to seat 30 pupils, as it is the plan of the school to have each teacher take a separate department of study, rather than give the entire instruction in various branches to one particular class.

IV. Departmental Notices.

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme	Large Sheets.	The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table		
4. Duties of Pupils		
5. The Ten Commandments		
6. Library Regulations	Small Sheets.	
7. List of authorized Text Books		
8. Merit Cards and their uses		
9. Hints on constructing Time Tables.....		
10. Departmental Notices		

McGill College and University, Montreal.

SESSION 1873-4.

THE FACULTY OF LAW, opens October First.

THE FACULTY OF MEDICINE, October First.

THE FACULTY OF ARTS, September Fifteenth.

THE DEPARTMENT OF PRACTICAL AND APPLIED SCIENCE, September Fifteenth.

THE MCGILL NORMAL SCHOOL, September First.

The Annual Calendar, containing the announcements of the above—also of the Exhibitions and Scholarships in Arts, open to competition—may be obtained of the undersigned.

W. CRAIG BAYNES, B.A.,

Secretary and Registrar.

24-3

JOURNAL OF

Province of



EDUCATION,

Ontario.

VOL. XXVI.

TORONTO, AUGUST, 1873.

No. 8.

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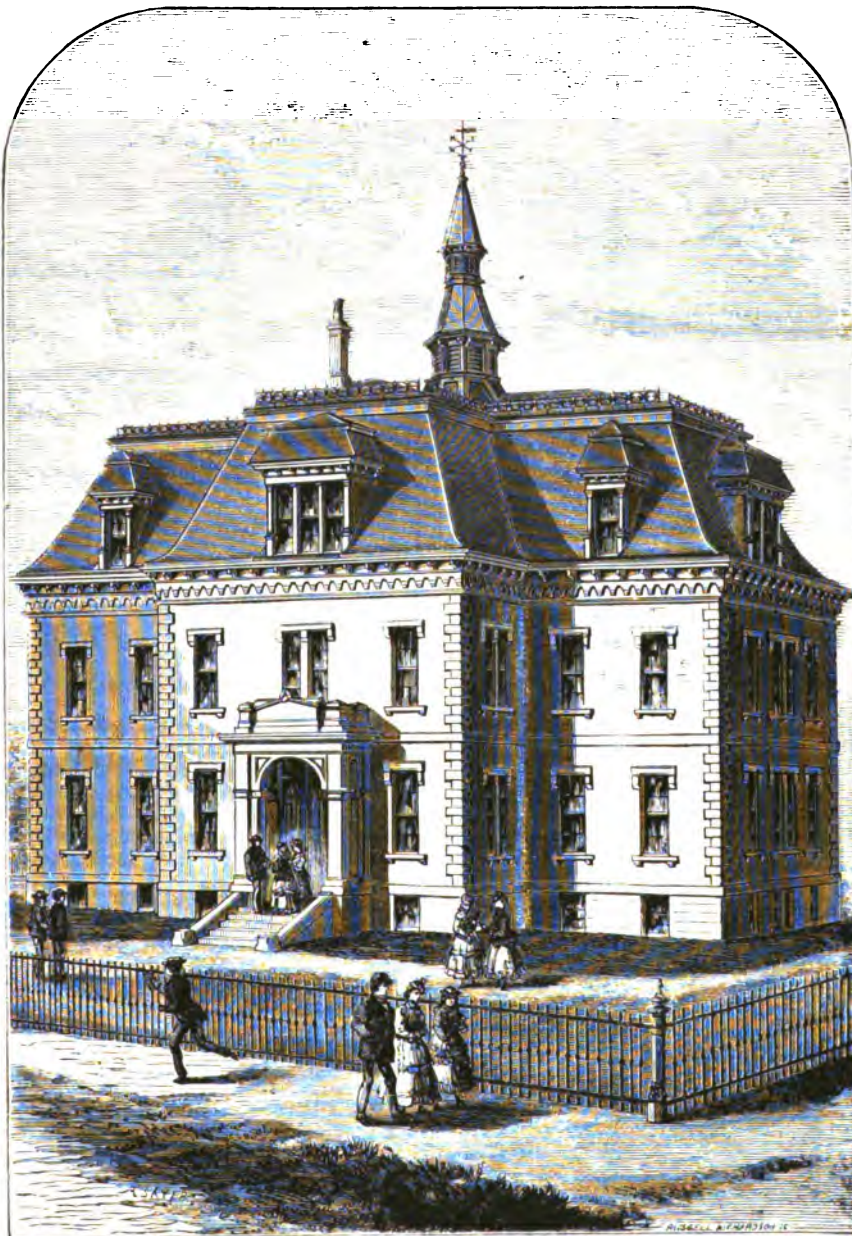
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HIGH SCHOOL-HOUSE, DORCHESTER.

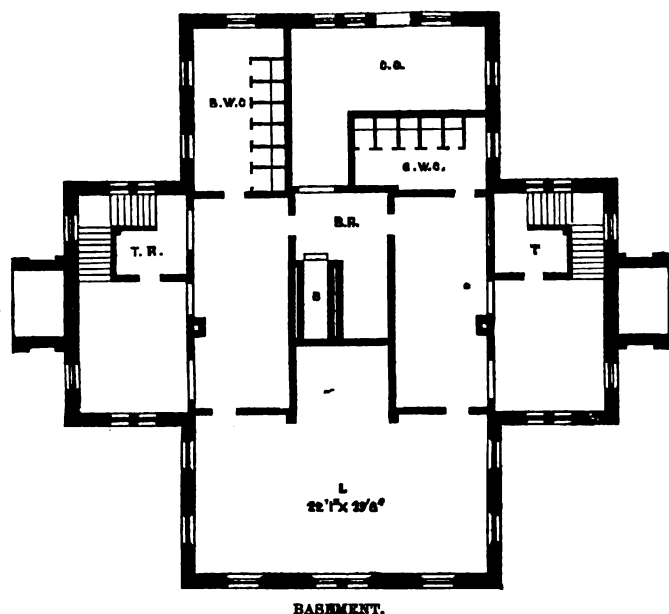
DESCRIPTION.

THIS beautiful structure had been commenced and was well advanced in its construction when Dorchester became a part of the city, January, 1870, after which time the finishing and furnishing were carried out under the direction of the Committee on Public Buildings. The site of the building is at the corner of Dorchester Avenue and Centre Street. The structure is two stories high, exclusive of basement and attic. The walls of the superstructure are of brick, faced externally with pressed bricks. The trimmings of the doors and windows, and also the angle quoins, are of Nova Scotia freestone. The basement is, externally, about five feet high above the ground,

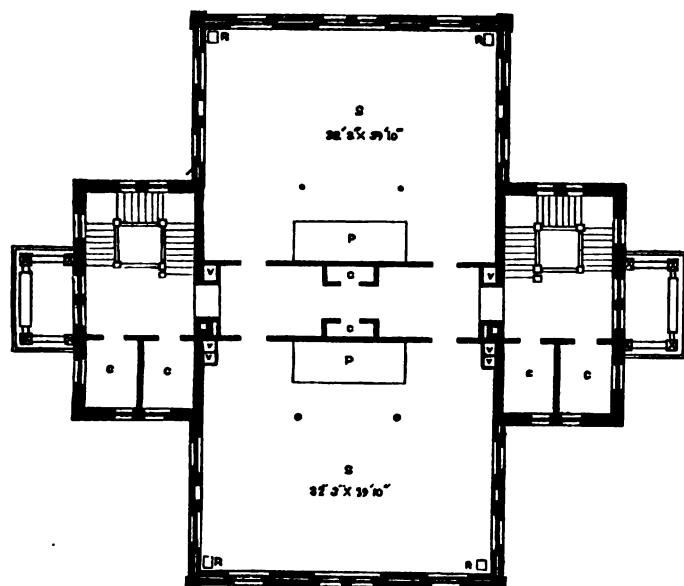


HIGH SCHOOL-HOUSE, DORCHESTER, MASS.

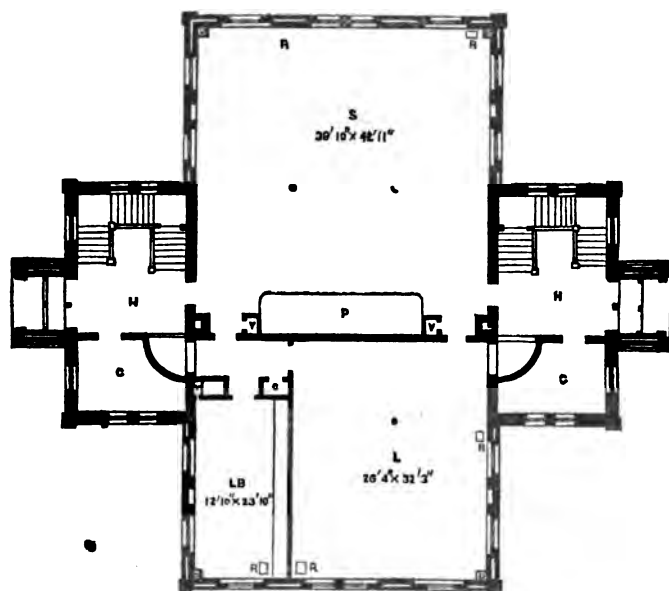
and is of granite. The walls are finished with a handsome cornice, composed partly of stone, and partly of wood and bricks, with copper gutters. Above the main cornice is a high Mansard roof, which is surmounted by an ornamental ventilating turret, about thirty feet high. The main building is eighty feet by forty-three feet. Projecting from the middle of each of the two longer sides is a wing, sixteen feet by thirty-four feet, and in front of each wing is a brick and stone porch, or vestibule, about seven feet by twelve feet. The wings are occupied by the staircases and cloak-rooms. In the basement is a chemical lecture-room and laboratory, a room for the steam-heating apparatus, coal-room, and a room on each side of the building for dry-earth closets.



BASEMENT.

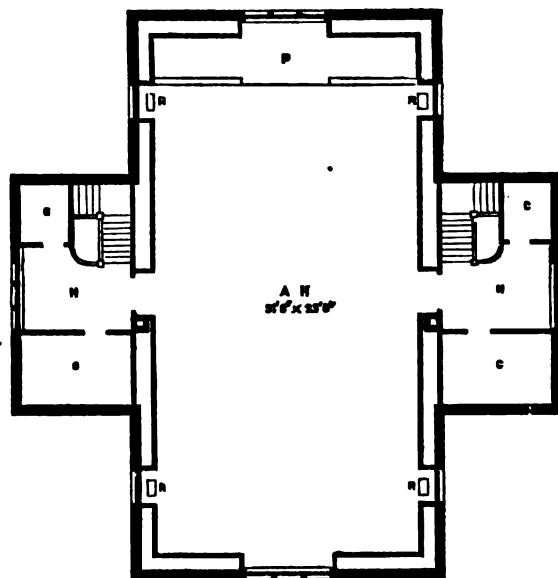


FIRST STORY.



SECOND STORY.

On the first floor is a large class-room, a lecture room, and library. In the second story are three class-rooms. The whole of the attic story of the main building is devoted to an assembly hall. The basement is finished ten feet high; the first and second stories fourteen feet high, and the assembly hall sixteen feet high. The interior is finished throughout with ash. The furniture is of oak. All of the modern improvements have been supplied, and the whole interior is as convenient and pleasing as any structure of the kind in the Commonwealth. The building will accommodate about two hundred pupils.



THIRD STORY.

The final working plans were prepared by George Ropes, architect; William Sayard was the contractor for the mason work, and Edward McKechnie for the carpenter work. Cost of the land and building, \$92,580.51.

RULES FOR STUDY.

1. Take a deep interest in what you study.
2. Give your entire attention to the subject.
3. Read carefully *once*, but think often.
4. Master each step as you go.
5. Think vigorously, clearly, and connectedly.
6. Let study, recreation, and rest be duly *mixed*.
7. Study systematically, both as to time and method.
8. Apply what you learn.

The student will do well to keep these rules before him until their observance becomes a life-habit. Right habits of study are vastly more important than the knowledge acquired. *How to learn*, is the important lesson to be mastered by the young.

Teachers may safely place these rules over their desks, and train their pupils into the habits of observing them; school life will then mean more than the mere knowledge of a few branches—it will fit for real life.

FREE PUBLIC SCHOOL LIBRARIES AND PRIZES.

We present in this number of the *Journal* our annual statement of the operations of the Educational Depository for 1872. From the accompanying tables, it will be seen that the number and value of books sent out for libraries and prizes, maps and apparatus, have been unprecedentedly large.

The facts shown in these tables are most gratifying, and demonstrate the continued and growing popularity and importance of this branch of our educational operations:—

(b)

TABLE shewing the Number and Classification of Public Library and Prize Books sent out from the Depository of the Ontario Education Department from 1853 to 1872 inclusive.

No. of volumes sent out during the year.	Total volumes of library books.	History.	Zoology and Physiology.	Botany.	Phenomena.	Physical Sciences.	Geology.	Natural Philosophy & Manufactures.	Chemistry.	Agricultural Chemistry.	Practical Agriculture.	Literature.	Voyages.	Biography.	Tales & Sketches, Practical Life.	Fiction.	Teachers' Library.	Prize Books.	Grand Total Library and Prize Books.
1853	21922	4158	1602	287	906	526	234	940	132	192	807	2694	1141	2917	5178	.....	208	.....	21922
1854	66711	10633	5532	1030	2172	1351	636	4780	629	321	3235	5764	4350	6393	18307	.....	578	.....	66711
1855	28659	5475	2053	318	558	663	200	1808	207	76	1452	3361	2926	3081	6049	.....	432	.....	28659
1856	13669	2498	652	118	397	287	77	660	55	31	418	1523	1019	1844	3832	.....	258	.....	13669
1857	29833	5295	1763	321	632	817	195	1729	134	67	1257	2391	2253	3516	9219	.....	244	2567	32390
1858	7587	1507	503	86	152	96	61	276	27	2	186	713	843	744	2245	.....	84	8045	15632
1859	9308	1670	551	136	209	192	130	432	87	18	300	1169	714	1127	2401	.....	172	12069	21397
1860	9072	1561	475	144	223	200	100	526	61	17	239	852	797	1115	2520	.....	142	20194	29266
1861	6488	1273	302	59	101	72	64	223	36	2	172	601	760	880	1826	.....	117	26931	33419
1862	5599	927	244	45	99	43	75	211	45	24	165	412	661	830	1706	.....	112	29760	35359
1863	6274	707	304	42	97	80	67	282	26	6	202	547	652	864	2286	.....	112	32890	39164
1864	3361	552	140	11	47	38	28	134	7	.....	87	321	290	451	1198	.....	57	33381	36742
1865	3882	611	168	20	62	53	26	131	3	.....	110	328	534	553	1225	.....	58	44601	48483
1866	6856	1144	217	56	125	81	55	282	26	19	291	652	776	784	2200	.....	148	58871	65727
1867	5426	1003	125	20	78	65	15	189	7	.....	118	524	595	650	1971	.....	66	64103	69529
1868	6573	1106	214	39	86	51	42	195	26	.....	132	554	979	736	2211	.....	150	64715	61288
1869	6428	1148	268	51	96	91	36	198	18	19	162	499	1172	863	1237	.....	491	54667	61085
1870	5024	865	162	28	68	64	36	156	14	.....	159	367	527	610	1542	.....	52	60655	65679
1871	4825	830	152	12	46	41	35	145	18	1	149	366	581	524	1591	.....	37	60420	65245
1872	6015	866	235	49	90	64	57	188	18	.....	132	540	850	566	1671	.....	323	63721	69736
Totals...	253512	43889	15662	2872	6244	4877	2169	13485	1576	795	9873	24178	22420	29067	71415	1678	8312	627590	861102
Volumes sent to Mechanics' Institutes and Sunday Schools,																			18563
Deduct volumes returned for exchange, &c.,																			899865
Grand Total, Library and Prize Books despatched up to 31st December, 1872,																			616
																			899049

(a)

TABLE shewing the Value of Articles sent out from the Education Depository during the years 1851 to 1872 inclusive.

Year.	Articles on which the 100 per cent. has been apportioned from the Legislative Grant.		Articles sold at catalogue prices without any apportionment from the Legislative Grant.	Total Value of Library, Prize and School Books, Maps and Apparatus despatched.
	Public School Library Books.	Maps, Apparatus, and Prize Books.		
1851	Dollars.	Dollars.	Dollars.	Dollars.
1852	.....	.....	1,414	1,414
1853	.....	.....	2,981	2,981
1854	51,376	.....	4,233	4,233
1855	9,947	4,655	5,514	56,890
1856	7,205	9,320	4,389	18,991
1857	16,200	18,118	5,736	22,251
1858	3,982	11,810	6,452	40,770
1859	5,805	11,905	6,972	22,764
1860	5,289	16,832	6,679	24,389
1861	4,084	16,251	5,416	27,537
1862	3,273	16,194	4,894	25,229
1863	4,022	15,887	4,844	24,311
1864	1,931	17,260	3,461	23,370
1865	2,400	20,224	4,454	23,645
1866	4,375	27,114	3,818	26,442
1867	3,404	28,270	4,172	35,661
1868	4,420	25,923	7,419	39,093
1869	4,655	24,475	4,793	37,136
1870	3,396	28,810	5,678	34,808
1871	3,300	30,076	6,175	38,381
1872	4,421	42,265	8,138	41,514
			10,481	57,167

BOOKS IMPORTED INTO ONTARIO AND QUEBEC.

The following Statistical Table has been compiled from the "Trade and Navigation Returns" for the years specified, showing the gross value of books (not maps or School apparatus) imported into Ontario and Quebec:—

Year.	Value of Books entered at Ports in the Provinces of Quebec.	Value of Books entered at Ports in the Province of Ontario.	Total value of Books imported into the two Provinces.	Proportion imported for the Education Department of Ontario.
1850	\$101,880	\$141,700	\$243,580	\$ 84
1851	120,700	171,732	292,432	3,296
1852	141,176	159,268	300,444	1,288
1853	158,700	254,280	412,980	22,764
1854	171,452	307,808	479,260	44,080
1855	194,356	338,792	533,148	25,624
1856	208,636	427,992	636,628	10,206
1857	224,400	309,172	533,572	16,028
1858	171,255	191,942	363,197	10,692
1859	139,057	184,304	323,361	5,306
1860	155,604	252,504	408,108	8,846
1861	185,612	344,621	530,233	7,782
1862	183,967	249,294	433,221	7,800
1863	184,652	276,673	461,325	4,085
of 1864	93,308	127,233	220,541	4,668
1864-5	189,386	200,304	389,690	9,522
1865-6	222,559	247,749	470,308	14,749
1866-7	233,837	273,615	507,452	20,743
1867-8	224,582	254,048	478,630	12,374
1868-9	278,914	373,758	652,672	11,874
1869-70	220,371	351,171	571,542	13,019
1870-71	146,435	411,618	557,953	13,078
1871-72	212,644	477,581	690,225	20,315

OPINIONS OF SCHOOL TRUSTEES AND OTHERS AS TO THE BOOKS AND REQUISITES SENT OUT.

(OPINIONS RECEIVED IN 1872-73.)

Township Trafalgar.—"Both children and parents were well pleased with the selection they received last year."

Township Zorra West.—"I may state that the selection of prize books made in December for the school by the Department proved highly satisfactory."

Township Innisfil.—"Those (prize books) you sent have given such good satisfaction that we will soon send again."

Inspector, County Haldimand.—"I was very much pleased with the prize books sent by the Department, and will urge Trustees to apply to you for semi-annual supplies of them."

Township Zorra East.—"We should like the same care taken in selection, and books of the larger size, averaging from thirty to eighty cents each."

Township Normanby.—"Accept our sincere thanks for the books and cards received from the Education Office, especially for the German books, which are very interesting, useful and instructive."

Township Dorchester, N.—"The globes are everything that could be expected; they are a credit to the makers."

Township Bruce.—"We feel very well satisfied with the selection you made for us."

Township Colborne.—"The selection made for me by the Department has always been most satisfactory."

Townships Crosby, N. and S.—"The selection made by the Department last time was so excellent that it is again left to it—only suggesting that a few toys, instead of books, would be as well for the smaller pupils."

Township Essa.—"We were well satisfied with your selection last year."

Colborne.—"Your last selection was very satisfactory."

Township Chinguacousy.—"In the selection of books that you sent us in March last we found several excellent books, and we therefore leave the selection to the Department again."

Township Thurlow.—"We leave the selection of the books, &c., with you, for those we received last year were all that could be desired, and you selected them."

Township Blandford.—"The selection being left with you as you have suited us by your selection for the last four years."

Township Nissouri, W.—"Having seen a selection of prize books sent from your Depository I feel confident you will select books as good as possible at the price."

Township Yonge Front.—"The maps and T. R. Lessons I purchased at the Depository in October last, I am glad to say, have given not only satisfaction to the trustees, but a real pleasure to the teacher and scholars. The Tablet Reading Lessons are certainly necessary for small children reading the first book."

Township Wellesley.—"The selection we leave to you, as that you made for us for two years previously was better than we could have made ourselves; and the books you sent gave complete satisfaction to all."

Township Minto.—"The packages of prize books we have previously got from the Department have given us great satisfaction."

Ottawa.—"We were very much pleased with the Department's selection for "Teacher's Library," and therefore leave the choice of this prize lot entirely to yourself."

Williamstown.—"We will leave, as on former occasions, the selection of the books to your superior judgment."

Township Beverley.—"As the selections heretofore made by the Department have given satisfaction, we leave them to be made as on former occasions."

Township Vespra.—"The Trustees desire me to say that the packages they received in the year 1870 gave good satisfaction."

Township Fitzroy.—"The selection you will please make yourself, as we were well pleased with books, &c., sent us in March last."

Farmersville.—"We are highly pleased with the maps, apparatus &c., sent to our school at the beginning of the present year. The maps, in particular, give universal satisfaction. We have no sympathy whatever with those who speak and write disparagingly of the praiseworthy efforts of the Department."

Township Bayham.—"You gave good satisfaction in answer to similar order last year, and I feel confident that you can do better than if I attempt to select from the catalogue myself."

Township Innisfil.—"We leave the selection to you. We were well satisfied with those you sent last year."

Township Mariposa.—"We got a package (prizes) last year, and it was better than those we could select."

Township Moore.—"The selections of former years were entirely to our minds; therefore, we leave the matter wholly in your hands."

Township Saltfleet.—"We have been getting prize books some seven years, and have always been satisfied before."

Township Brock.—"Your last selection gave entire satisfaction."

Township Mariposa.—"We are highly pleased with the prizes we get from the Department. There are some excellent books among them. Our school is very prosperous this year—I believe partly due to competition for prizes by merit cards."

Ottawa—(Inspector P. S.)—"I have much pleasure in expressing my satisfaction with the selection of works made by the officers of the Department, both in the Teachers' Library and the Christmas prizes."

Township Mara.—"We leave the choice of the articles to you. We did so before and were well pleased at the result."

Township Raleigh.—"We offer you our thanks for the very suitable prize-books we received in November last, which gave general satisfaction."

Township Townsend.—"Your last selection was so suitable and appropriate that we leave the choice again in your hands."

Township Williams West.—"The last library we procured contained books, chiefly on *Adventures in Hunting*, &c., which appeared to excite an interest for reading in the section, and satisfied all parties."

Township Fenelon.—"We thought the last assortment was beautifully selected."

Township Keppel.—"The books you sent have arrived safe and in good order, and we were very well pleased with them."

Township Whitby West.—"Your selections in previous years for our school have given satisfaction, and we prefer leaving it with you again, to making our own selection."

Township Williamsburg.—"I received your merit cards, and was well pleased with them."

Township Grantham.—"The books you sent us last year gave satisfaction."

Township Manvers.—"We are well satisfied with what we received before, and again leave them (Prize Books) to your selection."

Township Sydenham.—"The library books we obtained last year gave great satisfaction."

Township Gloucester.—"We received the package (prizes) last year, and were well pleased with them."

Township Puslinch.—"The package of prize books and the map of the world sent from the Department were in every respect found to be satisfactory."

Township Esquesing.—"Last year you selected the books for us; the selection giving good satisfaction."

Township Dereham.—"Though we did not receive all the books we sent for, still those selected in their places were very appropriate."

Township Egremont.—"We leave you to make the selection, as we have always got satisfaction in the past."

Township Marmora.—"I think it is seven times I have gotten prize books from the Department, and always with good satisfaction."

Township Petawawa.—"You will please accept our thanks for your very good and appropriate selection of books, and the many little pleasing extras you so kindly put in, which I feel sure will all help to elevate our schools still more."

Township Haldimand.—"The books and papers ordered at your office give the best satisfaction, for which accept our thanks."

SEVENTEEN FACTS AND INFERENCES TO BE CONSIDERED.

1.—*City and Town Boards of Trustees authorized to establish a Depository for their Schools.*

That the law authorizes (and provides facilities for) each Board of School Trustees, in Cities, Towns, &c., to establish and maintain what is equivalent to a Depository, or School depot, for the supply of its schools with approved books, stationery, &c., of all kinds, and authorizes the charge of a fee for its maintenance.

2.—*Educational Depository, a City and Town one, on a large scale.*

That the Depository connected with the Education Department, is nothing more than such a City or Town School depot on a large scale, and under Provincial control, out of which to supply all the Schools of the Province.

3.—*What is right and proper for a City and Town Board to do is not wrong for the Education Department to do.*

That what is right and proper for a City and Town Board of Trustees to do (under the sanction of the Legislature), cannot be wrong for the Central Depository of the Education Department to do on a large scale, under the same sanction.

4.—*Educational Depository exists solely for the schools.*

That the Educational Depository exists solely for, and in the interest of, the schools alone, and that it has never supplied private parties with books, or interfered with private trade in any way.

5.—*Principle of the Depository acted upon by the Dominion and Provincial Governments, &c.*

That the principle of the Depository is recognized and acted upon without question by the Imperial, Dominion and Provincial Governments, in their Stationery Offices, Queen's Printers, Post Offices, Army and Navy supply, etc.

6.—*To abandon the Depository principle would be to create two evils.*

That to abandon the principle of the Educational Depository would be either to confer a monopoly of high prices upon a few individual booksellers, or to throw wide open the door to the introduction of all kinds of literature, the bad and pernicious as well as the good, as we shall demonstrate by incontrovertible testimony and examples.

7.—*Examples and warnings of others not to be disregarded.*

That the examples in our own country, and the warning of our American neighbours (which we quote below) should not be disregarded by us, but should be carefully pondered.

8.—*Not one of our 5,000 schools has asked for change in Depository system.*

That after an experience of twenty years, not one of the nearly 5,000 school corporations have asked for any change in the Depository system, but numbers of them have regarded the Depository as a great boon, and have so expressed themselves.

9.—*None but interested parties wish to destroy the Depository.*

That none but interested parties have ever petitioned the House of Assembly against the Depository; that even they have not done so for years, and that during the last session several petitions were sent in asking the House to authorize the Department to supply poor schools with maps and apparatus, as part of the grant made to them.

10.—*The gift of books and maps identical in principle with the gift of money, &c.*

That if the Government, under the authority of the Legislature, has a right to give money and provide trained teachers for the schools, it has also a right to give books and maps to them, and there is not a shadow of difference in the principle of the one gift and the other.

11.—*Great success of the Depository for 20 years.*

That the Depository has now been in successful operation for twenty years, has sent out (or, at the end of this year will have sent out) nearly 900,000 volumes of approved books, for libraries and other reading, and (including maps and apparatus) articles, during the same time, to the value of nearly \$600,000.

12.—*No article costs a school more than half a reduced price.*

That all the books and maps for the schools are purchased from wholesale booksellers and others, at the lowest wholesale rates, and are sold (on an average) at currency for sterling rates, or about 25 per cent. less than the usual current retail prices, and that no school has to pay more than one-half of this reduced rate.

13.—*Development of Home Trade by the Depository.*

That the Depository has developed new branches of home manufacture and industry in Ontario, and has largely increased the demand for books, of which the booksellers have reaped the benefit.

14.—*Alleged interference with book trade disproved.*

That the alleged interference of the Depository with the book trade is the reverse of truth, as the "Trade Returns" will show. It has, on the contrary, largely developed this trade, by sending books into every corner of the land. The value of books (not maps and apparatus) imported into the Province of Ontario, in 1850, was \$141,700, and, in 1870, \$351,000, while the average import of books by the Department has not been five per cent. of this latter sum.

15.—*Entire text-book trade in the hands of booksellers.*

That the entire text-book trade is in the hands of the booksellers, as the books are all named and known, and no departure from the lists can take place; but that, with the large and constant influx of new books, no such supervision could take place over the supply by booksellers of prizes and library books.

16.—*Legislative aid to Depository develops local effort.*

That, of the \$398,408 granted by the Legislature to the Depository since 1851, \$153,692 have been returned to the Provincial Treasury, as the proceeds and evidence of local effort to supply the schools with books, maps and apparatus.

17.—*Depository has fully paid its own expenses.*

That the Depository has fully paid its own way, and has not cost the Province one penny for its management for twenty years.

THE BOOK TRADE OF TORONTO, 1872.

In no department of Canadian commerce has there been, of late years, a more satisfactory and gratifying growth than in the business of book-selling. The expansion of the trade, during the last five or six years, particularly, is as remarkable to the statistician as it is encouraging to the active firms engaged in the business. Nor is its bulk the only feature of note. Any one accustomed to frequent the book stores of the country will find that there has been also a marked improvement in the character of the trade's importations. While in former years much that was offered in the way of literary pabulum was the raw product of the neighbouring markets—either in the shape of the crude piracies of English copyrights or the gilt gingerbread of American centre-table literature; now, the shelves and counters of the booksellers display substantial and tasteful editions of English production. The gradual popularizing of literature in England—both standard and current—and the advantage, as to cost of production, being on the English rather than on the American side, has had much, of course, to do with this change. Yet, there can be no question, and it is due to the trade to acknowledge it, that while there has been a very decided improvement in the reading taste of the community, which naturally created the demand for a superior class of literature, there has also been a very perceptible influence exerted, by the many intelligent members now in the trade, in favour of a superior and more wholesome class of reading, and that of honest and *bona fide* authors' editions. Moreover, thanks also to native enterprise, much in the way of works of elementary instruction for school purposes, as well as many books of a more professional character have been manufactured for our wants, instead of having to draw our supplies from abroad. Any one familiar with the manner in which English history used to be re-served, in American editions of school class-books, for the young attitudinizing declaimer of the other side of the line, will appreciate the importance of this change. And with the growth of our population and the extension of our educational system, no doubt, our publishing houses will be induced to do more in this way; provided always, that we have a Council of Public Instruction discerning enough, and sufficiently actuated by motives of fair-play and impartiality, to give encouragement to such enterprises.

It is gratifying also to note that many ventures, of a more ambitious character have been made by the trade during the year, and with very encouraging results. Not only have reprints been undertaken to a considerable extent by our home firms, and by arrangement with the authors, but many native works in several departments of literature, and all of more than passing interest, have issued from the press. Further announcements of forthcoming works, of interest to Canadian readers, indicate also the growing extent of this trade. The establishing of "*The Canadian Monthly and National Review*," in the present year, cannot be overlooked as an event, in connection with our young publishing trade, which must awaken and fan the national life of the country. Its enduring establishment, while it so creditably represents the higher literary life and culture of the country, should be a matter of personal effort and pride on the part of every person of intelligence in the Dominion. And referring to this periodical suggests another mark of the progress of the publishing trade in Canada, which we should be unjust to overlook. We refer to the mechanical perfection in the

printer's art amongst us. No one, be he Colonist, Imperialist, Republican, or Cosmopolitan, but will admit that the pages of this national magazine, as well as those of several recent productions of our Toronto men satisfactorily show that we have at last emerged from the old Colonial type of workmanship, and that rarely is there better printing to be seen in the most important centres of the publishing trade of the world.

Altogether, whether we look to the rapid development of the book trade in the last few years, to the surprising extent of its importations, to the value and bulk of its home manufactures, or to the character and importance of its operations, we have ample room to felicitate ourselves and congratulate the country upon its many gratifying results. Figuratively, the value of English importations alone for the past year, as nearly as can be approximated, has been close upon a half-million of dollars. This amount, it is no less worthy of note, is fully one-third the value of the exports of the same class of stock from England to the markets of the United States. The value of the importation of American reprints, &c., from the other side the lines, and the amount of the trade in native book manufacture, when added to the above, would show a very handsome amount as representative of the doings of our Canadian book trade for 1872.—*Mail Report*.

BOOK TRADE OF BRITAIN.

The *London Times* has the following item as to the book trade of Great Britain with foreign countries :

In the article of printed books our trade with foreign countries and the colonies has shown a very great increase in the last few years. Our exports and our imports of books in the year 1871 were both of them more than double those of 1861. The export of books from the United Kingdom reached 62,210 cwt., of the declared value of £719,042, and these figures will prove too low to represent the export of 1872. Our imports of books from ports beyond the seas are always much below our exports. In 1871 our imports amounted to 14,507 cwt., of the value of £158,429. Our largest customer for our books is America. Thither went, in 1871 22,611 cwt., of the value of £244,665, for the United States, and 7,243 cwt., of the value of £71,465, for British North America, so that nearly half our export must have gone to the New World. Our imports of books come chiefly from Europe. In 1871 we imported from Germany, Holland and Belgium 7,267 cwt., of the value of £71,625; from France, 3,932 cwt., of the value of £54,324; from Spain, 402 cwt., of the value of £5,672; from the United States, 1,166 cwt., of the value of £11,632.

II. Papers on Books and Reading.

1. SALE OF OLD BOOKS.

In this age of cheap literature, it is a little wonderful to find that the very highest prices yet realized, are paid for the early specimens of the printer's craft. But so it is. There was a sale very recently in London, of a small collection of rarities belonging to Mr. Perkins. The catalogue numbered but 865 lots, yet it was confidently predicted that the proceeds of the sale would reach twenty thousand pounds sterling, and even this enormous total was considerably exceeded by the actual result. The great feature of the sale was the submission to competition of two copies of the famous Mazarin Bible, one on vellum, and the other on paper. The Mazarin Bible gets its name from the fact that the copy first known to bibliographers was discovered in the library of Cardinal Mazarin. It has the double distinction of being, probably, the first edition of the Latin Bible, and the first book printed with metal types by Gutenberg and Faust. As it has no date (the first edition with a date is 1462), the year of its production can only be stated conjecturally, as not earlier than 1450, nor later than 1455. "There can be little doubt," says a London correspondent, "that this book was printed at Mayence, and we have the usual roundabout testimony that before the sheets were worked off the cost of it had reached 4,000 florins. Whether on paper or on vellum it is one of the finest books and rarest in the world, and one of the finest as well as earliest specimens of printing. One can almost agree with the cataloguer that "in contemplating this work the mind is lost in astonishment that the inventors of printing should, by a single effort, have exhibited the perfection of their art." The price which the copy on vellum brought was £3,400 and the copy on paper £2,690. These are the highest prices ever paid for a printed book, the highest price on record previous to this sale being £2,260 at the Roxburgh sale by the Marquis of Blandford for a unique Valdarfer Boccaccio of 1471.

2. MODERN LITERATURE.

When one looks on the ever-increasing multitude of books, he can but ask, who in the generations to come will read them? Supposing literary productiveness to continue as active as now—and it bids fair to increase rather than to diminish—how can future readers do more than keep up with the literature of their own day? What will they do with the innumerable writers of the past? What with the many products of the present generation? Of course, by degrees, the fifth, fourth, third-rate authors disappear from public sight, and their names live only in antiquarian catalogues. But what of those whom we are used to class as first and second-rate—the men of genius and of pre-eminent ability—the Scotts, the Dickenses, the Thackerays, the Bulwers, the Brownings, the Tennysons—not to speak of those renowned as theologians, metaphysicians, historians, scientists? Will they be read fifty years hence?

It is not easy for a man of one age to judge what a coming age will admire and deem worthy of preservation. There is, indeed, an ideal standard of excellence; and in proportion as this is reached, the chances of immortality increase, but the literary artists who work for posterity are very few. Not one writer in a thousand aspires higher than to please the popular taste, and thus acquire an immediate reputation. Literature is more and more a trade and a means of livelihood, and must therefore address itself to the topics of popular interest, and aim to treat them according to popular tastes. No one can reasonably find fault with this. But it shows us that popularity is no pledge of permanent reputation. Time works great changes in the relative position of authors. The names that the world will not willingly let die, were, in not a few instances, among the obscure of their own day.

It is a question whether this great literary fecundity is favourable to the highest results. It might seem that when such great numbers are authors, the probabilities are augmented that a certain number of them will do work of the highest kind. Where there are hundreds of Jameses and Trollopes and Mulochs, there is greater likelihood of being one Thackeray, or one George Eliot. Perhaps this is so. But setting aside genius—which is always a law to itself, and comparatively little affected by its surroundings—the highest order of talent is quite as likely to be smothered as to be stimulated by the warm and murky atmosphere in which it now lives. Like trees in a thick forest which check each other's growth, so these numberless *litterateurs*, by mutual action and reaction, are kept in a mediocre condition, and each becomes a kind of facsimile of the other. That full development of one's own individuality, which gives to books their charm and power, is scarcely possible to one who does not live a somewhat isolated intellectual life. A man whose daily food is from the newspapers and magazines and reviews, and who measures himself by his contemporaries, will scarce be heard of a quarter of a century hence.—*Churchman*.

3. TIME FOR READING.

"I have no time to read," is the common complaint, of those whose occupations are such as to prevent continuous book perusal. They seem to think, because they cannot devote as much attention to books as they are compelled to devote to their avocations, that they cannot read anything. But this is a great mistake. It isn't the books we finish at a sitting which always do us the most good. Those we devour at odd moments, half a dozen pages at a time, often give us more satisfaction, and are more thoroughly digested than those we make a particular effort to read. The men who have made their mark in the world have generally been the men who have in their boyhood formed the habit of reading at every available moment, whether for five minutes or five hours. It is the habit of reading, rather than the time at our command, that helps us on the road to learning. Many of the most cultivated persons, whose names have been famous as students have given only two or three hours a day to their books. If we make use of spare minutes in the midst of our work, and read a little, if but a page or a paragraph, we shall find our brains quickened and our toil lightened by just so much increased satisfaction as the book gives us. Nothing helps along the monotonous daily round so much as fresh and striking thoughts, to be considered while our hands are busy. A new thought from a new volume is like oil which reduces the friction of the machinery of life. What we remember from brief glimpses into books, often serves as a stimulus to action, and becomes one of the most precious deposits in the treasury of our recollection. All knowledge is made up of small parts, which would seem insignificant in themselves, but which, taken together, are valuable weapons for the mind and substantial armour for the soul. "Read anything continuously," says Dr. Johnson, "and you will be learned." The odd minutes, which we are inclined to waste, if carefully availed of for instruction, will, in the long run, make golden hours and golden days that we shall ever be thankful for.—*Scribner's for August*.

—**READ AN HOUR A DAY.**—An English paper tells of a lad who at the age of fourteen was apprenticed to a soap-boiler. One of his resolutions was to read an hour a day or at least at that rate, and he had an old silver watch, left him by his uncle, which he timed his reading by. He stayed seven years with his master and said that when he was twenty-one he knew as much as the young sire did. Now let us see how much time he had to read in seven years at the rate of an hour a day. It would be 2,555 hours, which, at the rate of eight reading hours each day, would be forty-five weeks, equal to twelve months,—nearly a year's reading. That time, spent in treasuring up useful knowledge, would pile a very store. Surely it is worth trying for. Try what you can do. Begin now. In after years you will look back upon the task as the most pleasant and profitable you ever performed.

III. Papers on Education in Various Countries.

1. N. Y. STATE TEACHERS' CONVENTION—LIBRARIES.

This year the teachers of New York State held their annual convention in Utica. As usual, essays were read on topics which seemed to require the special attention of educators, and these were followed by discussion and comment. Mr. Edward Danforth, Deputy State Superintendent, of Albany, presided, and in his opening address gave a statistical account of the use, progress and present condition of public school instruction in the State. The report of the Standing Committee was replete with suggestions of radical changes or reforms. It recommends such legal action in the matter of District School Libraries as will make the library system more efficient. If this cannot be done, it then recommends that the library system be abolished, and the funds now squandered on it appropriated to some useful department of public instruction. Another suggestion is that the filling of the office of School Commissioner be removed out of the sphere of local politics, and that the appointment be made hereafter by the State Superintendent, or by an appointing board chosen by the Governor; and, further, that the salary of the Commissioner be so increased as to secure competent men, who will devote their whole time to the duties of the office. The report, in addition, condemns the present duality in the supervisory department of Public Education at Albany, because it separates the academies from the public school system, and presents one of the great obstacles to a united system of public instruction. One or the other department should be done away with.

During the three days' sessions, there was time for the reading of quite a number of papers, and there was a corresponding variety of subjects considered. Mr. H. Smith, of Watertown, took up the "Academy," and showed why it ought to be treated as an organic part of the system of public education.

Superintendent Beattie then read a paper on "Supervision in Cities." Its leading points were, that Superintendents ought to be men of commanding ability and educational culture; that they ought to be set apart to their work, and not permitted to combine administrative duties with supervision, instancing cases where Superintendents were Presidents of Boards of Education; and that women should frequently be chosen as Superintendents. The paper by Commissioner Selden, Genesee County, maintained that the present system of supervision through commissioners of public education in the country districts had failed to fulfil the expectations of the friends of that arrangement, and that in very many cases the commissioners are selected on account of their availability for political uses. Major Stourtz, of Buffalo, said that supervision, whether by principals, commissioners or superintendents, no longer means teaching; that commissioners or superintendents untrained as teachers cannot wisely supervise, because they cannot even advise as to the best methods, and that it is by no means uncommon to find young men fresh from college placed as superintendents and experienced teachers.

Among the other speakers before the association was Mrs. Nellie Lloyd Knox, of the Brockport Normal School, who arrested the attention of the audience by her clear presentation of the subject of Primary Education. Prof. Cooley, of Albany, put in a claim for Natural Science as a part of Common School instruction.

The convention closed with an informal gathering on Thursday evening, after electing Superintendent Andrew McMillan, of Utica, President for the ensuing year.

2. THE JESSE KETCHUM MEMORIAL FUND, BUFFALO.

This fund, established during the year by B. H. Brennan, Esq., is intended to found an appropriate and enduring memorial of that endeared and venerated man, the late Jesse Ketchum, so well

known in Toronto. The correspondence, bearing upon this important matter, is herewith furnished, and also the accompanying deed, giving in detail the motives actuating the donor in bestowing upon the public schools, this munificent gift.

The following is the letter and deed referred to:

BUFFALO, Sept. 29, 1871.

Hon. Alexander Brush, Mayor of Buffalo:

SIR.—In pursuance of a long cherished purpose unavoidably delayed, I herewith transmit a deed of trust to the City of Buffalo, designed to establish a memorial in honor of the late Jesse Ketchum, and for the benefit of the public schools of Buffalo, and respectfully request that such action may be taken thereon as may appear proper.

I also transmit herewith my check for the amount mentioned in the deed.

I have the honor to be, sir, very respectfully, your obedient servant.

B. H. BRENNAN.

THE DEED.—KNOW ALL MEN BY THESE PRESENTS, that I Barnabas Hazlet Brennan, of the City of Buffalo, in the County of Erie, and State of New York in honor of Jesse Ketchum, late of said city, deceased, for the benefit of the public schools of said city, and to create and perpetuate a trust fund, to be known as the "*Jesse Ketchum Memorial Fund*," have given, granted, assigned, transferred and delivered, and by these presents do give, grant, assign, transfer and deliver unto the City of Buffalo, a municipal corporation, created and existing under and by virtue of the laws of said state, the sum, of *Ten Thousand Dollars*, lawful money of the United States, to have and to hold the same unto the said, the City of Buffalo for-evermore, in trust, always for the uses and purposes and subject to the conditions and provisions hereinafter set forth and expressed, that is to say:

The said sum of money, and all additions to be made thereto, as hereinafter directed, shall be always held, managed and controlled as the capital of the fund aforesaid, by five trustees, of whom, the Mayor, and Superintendent of Education, of said city for the time being, shall *ex officio*, be two, and Arthur Cleveland Coxe, Nathan Kelsey Hall and James Murdock Smith, citizens of said city, and their successors to be nominated and appointed as hereinafter provided, shall be the other three. All vacancies in the office of trustee occurring by the death, removal from said city, resignation or otherwise, of either of the three trustees last named, or their successors, shall be filled by the common council of said city upon the nomination of the Mayor.

The capital of said fund shall be invested by said trustees, and by them always kept invested in the bonds of said city or of said county, or of other safe interest bearing securities, and not less than one-third nor more than one-half of the income of said fund for each successive year for ever, shall be added to and remain a part of the capital thereof; and they shall make an annual report to the common council of said city of the condition and investment of said fund and the income thereof and their disbursements therefrom. The unfunded balance of income for each year, being not less than one-half nor more than two-thirds of the whole income for that year, shall be expended by said trustees in providing gold and silver medals, books or other suitable prizes presentation to meritorious pupils of the public schools of said city under such rules and regulations as said trustees shall, from time to time prescribe, but not less than one-half of the total amount expended for prizes in each year, shall be expended for gold and silver medals. These medals shall be made of standard gold or silver of the same fineness and purity as gold and silver coins of the United States, and weigh not less than the double eagle—to wit: 516 grains each. All of said medals shall be struck in honor of the late Jesse Ketchum, and bear on their obverse, his name and portrait and the year of his birth and death, together with such other devices, legends and inscriptions on their obverse and reverse as said trustees shall direct. They shall be made and finished in the highest style of the art, and those of each class or kind numbered successively. Every Medal shall have a suitable case, and be accompanied by a certificate on parchment, vellum or other suitable material, setting forth the class or kind and number of the medal, to whom awarded, and when and for what, with the number and other designation of the school in which the medal was awarded, and such other particulars as the trustees may deem proper, and such certificate shall be signed by or on behalf of the trustees and countersigned by the principal of the school in which the medal was awarded, and by the Superintendent of Education of said city, and the name of every pupil, to whom a medal may be awarded, and the class and number thereof, shall be duly reported by the trustees to the common council, and their report shall be recorded, preserved and published with the minutes and proceedings of the common council.

The system of public instruction has for its grand object and design to make worthy citizens, and this implies the culture of the mind, the morals and manners, and the object and design of this trust is to promote that three-fold culture in just proportions. The medals and other prizes are intended as incentives to diligent study, correct deportment and good behaviour. They are intended to promote a faithful application to prescribed studies, a cheerful obedience to all the rules and regulations of the school, a respectful demeanor towards the teachers, a strict attention to the proprieties, which distinguish polite intercourse of refined society, and a supreme regard for "whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report." All of said medals and other prizes shall be awarded by the trustees or by judges appointed by them, who shall make the awards under such instructions, as the trustees may give as the principles which shall govern them in making the awards, and as to the means they shall take to ascertain and determine who are most worthy, and they shall report to the trustees. All medals and prizes awarded in any one year, shall be presented by the trustees, or under their direction, to all pupils, entitled thereto, on some public occasion.

The words "public schools," as used in this instrument, shall not be construed to exclude the Normal School, now being established in the city, situate on the block of land, granted by Mr. Ketchum to the city for educational purposes or other schools in immediate connection therewith, situate on said block, but shall be construed to exclude all schools under the ecclesiastical control of any church, sect or religious denomination, and all other schools, which are not placed by law under the exclusive management and control of the City of Buffalo, save and except only the said Normal and its associate schools.

The trustees shall have power to do all things necessary or proper, to give full effect to the intentions and purposes of the trust hereby created.

By this act I hope to found an appropriate and enduring memorial of that revered and venerated man, the late Jesse Ketchum, whom the people of Buffalo delighted to honor, and whose memory is now embalmed in their hearts. But no memorial would be appropriate for him whose life was spent in doing good, if not unceasingly beneficent in its operation, nor would any memorial be altogether appropriate for Mr. Ketchum, if its beneficence failed to reach the children of the public schools of Buffalo. During a period of twenty years preceding his death, in addition to his incessant labors of a philanthropic, benevolent and religious character, he visited the public schools of Buffalo in due course with unfailing regularity, dispensing gifts with a liberal hand, encouraging both teachers and pupils, enlisting the sympathy and efforts of others in their behalf, and contributing largely by his exertions and great influence to build up the system of public instruction which has already attained such eminent success. Whenever he visited a school the usual exercises were suspended, and these visits were always anticipated and remembered as occasions of great pleasure and profit, and wise counsels. With characteristic earnestness he enforced the great lessons of practical wisdom in the conduct of life, and with affectionate solicitude, sought to win every heart to the love of virtue and religion.

He loved the children with a fatherly love, and their love for him found expression in the name by which he was universally known and recognized, "Father Ketchum."

The long-cherished but unaccomplished desire of his heart to found a prize fund for the public schools of Buffalo, is accomplished in this his memorial. Mr. Ketchum was born in Spencertown, Columbia Co., N. Y., March 31st, 1782, and died at his residence on North street, in said City of Buffalo, September 7th, A. D. 1867. I attest the execution of these presents by my hand and seal hereto, this seventh day of September, in the year of Our Lord, one thousand eight hundred and seventy-one.

—B. H. BRENNAN, L. S.

The above documents were transmitted by His Honor, the Mayor, to the common council, October 7th, 1871, and referred to the committee on schools, together with the mayor, city attorney and superintendent of education. This committee presented the following report, at a meeting of the common council, held November 26th, 1871, recommending the acceptance of the trust, which was adopted:

The committee, to whom was referred the deed and letter of B. H. Brennan, Esq., by which he conveys to the City of Buffalo the sum of ten thousand dollars, in trust, for the purpose of establishing a memorial fund in honor of the late Jesse Ketchum, respectfully report that we have examined the deed of Mr. Brennan, and

are of the opinion that the trusts therein created are valid and authorized by law, and that the acceptance of the same would be highly advantageous to the cause of education in the City of Buffalo.

We therefore recommend the adoption of the following resolutions:

Resolved, That the City of Buffalo accepts the deed of trust and gift of B. H. Brennan, Esq., referred to in his letter of Sept. 29, 1871, addressed to the Mayor of this City, and will undertake and perform the trust by said deed created.

Resolved, That we hereby tender to Mr. Brennan the thanks of this council for the large liberality displayed by him in this munificent gift, and trust that the same will remain not only a perpetual memorial of the late Jesse Ketchum, but a lasting monument to the munificence of Mr. Brennan himself.

Resolved, That the City Clerk be directed to transmit to Mr. Brennan a copy of these resolutions.

ALEXANDER BRUSH, Mayor, A. T. PATCHIN, }
BENJ. H. WILLIAMS, City Attorney, JACOB SCHUB, } School
THOS. LOTHROP, Supt. of Education, ISC. I. VAN ALLEN, } Committee.
LEWIS M. EVANS.

The foregoing letter and deed, noble testimonies of the generosity and wisdom of their author, show the origin and purpose of this memorial fund. By this gift, the family of the late Jesse Ketchum strive to perpetuate the memory and virtues of their venerated head, among the pupils of the public schools, with whom he so intimately mingled during his lifetime.

The example of Christian excellence he placed before the youth of our city, with the words of counsel and encouragement he delighted to speak in his visitations at the several schools, will be appropriately repeated from year to year, by the distribution of medals, bearing the image and name of this aged patriarch, to those pupils, whose scholarship and department merit the honor.

The ultimate influence or effect of the system of awarding prizes in our schools will depend upon the manner in which this important trust is administered, and it is a matter for deep and sincere congratulation, that the board of trustees, by which this system is to be inaugurated, is composed of gentlemen of high character and enlightened views, who will strive to make this munificent gift productive of the greatest good to the youth of our city.

Recognizing a difference in the natural aptitude of pupils in acquiring knowledge, it seems to be wisely provided in this trust that it is designed to inspire a love of excellence, rather than of excelling, and to be an incentive to stimulate to the most diligent use of the means provided for the education of the young. The conscientious performance of duty among pupils, in the faithful observance of the wishes of teachers, and the rules of the school, will here find a suitable reward.

It is reasonable to anticipate the most gratifying results in the department, from the institution of this new feature in our school system. Judiciously administered, the trust will yield returns to both the donor and the public, which will forever bless the noble man, whose excellencies of character it is designed to commemorate, and inspire the young with renewed zeal to acquire habits, both of thought and action, to fit them for the higher duties of life.—*Report, City of Buffalo.*

—In France all corporal punishment in the primary schools is prohibited. In Germany the regulations of school discipline provide for a strict limitation, though not an absolute prohibition of the power of the teacher to administer bodily chastisement. The school ordinance of Prussia, adopted in 1845, provides that no punishment shall be administered exceeding "the bounds of moderate parental discipline," and that the teacher may be prosecuted for any punishment which exceeds the statute. Most Russian educators favour the total abolition of corporal punishment in schools, but questions of discipline are referred to local boards for decision. In England there seems to be a strong determination to stick to the old-fashioned system of school flogging.

The Germans have established no university for the last half century. Their plan is to strengthen those they have, not to found new ones. Prussia has eighty-eight normal schools, five of which are training colleges for female teachers. It has even schools for booksellers and printers. . . . Instruction in the science of politics is now a feature of the general educational system of France. A Free School of Political Science has been under way in Paris during the past year. . . . Saxony has just made attendance of young artisans and others upon evening schools for three years compulsory.

3. TORONTO NORMAL SCHOOL.

A gentleman writing to the *League Journal* an account of his visit to Canada says of the Toronto Normal School: "The Normal School was well worth the visit we paid to it. Although not in session we saw the interior of the class-rooms, and have no hesitation in saying that the whole arrangements for the comfort and convenience of the scholars and teachers were superior to anything to be found in similar institutions at home. The rooms were airy and well lighted, and the desks and seats were constructed so as to secure the greatest possible comfort. This air of comfort is to be found in the schools of Canada and the States, and is far superior for the health of the scholars and teachers. At home we have small, ill-ventilated rooms with a stuffy smell, the air poisoned with the exhalations from the lungs, and the teachers often have a wan look, not so much from real work, as from bad air constantly inhaled into the lungs during school hours. In Canada and the States the schools I visited were large, high in the ceiling, the seats were all arranged with backs, and in some cases in a semicircular form, and only made to hold a few scholars, so that they could be the more easily controlled. The poorest girls were clean washed, and their dresses, if plain and cheap, were clean, and generally of a light colour, so that when you enter a school in America, you are at once struck with the light, airy, cheerful aspect of the whole place. I do hope, when our new School Boards erect new schools, they will look to the health of the scholars, and not forget that it is one branch of education sadly neglected in this country, viz., attention to the physical laws necessary to a sound body, and one of these is pure air. Perhaps I have digressed a little here, but I could not help making a remark about what I saw of schools in the New World, and I only state the simple truth when I say that they stand in favourable contrast with those at home."

4. MISCELLANEOUS EDUCATIONAL ITEMS.

—There are now in the United States 114 Normal Schools with 445 teachers and 10,922 pupils. The following statistics from the forthcoming report of the U. S. Bureau of Education are published: "Total school population, states and territories, 12,828,847; total enrolment, 7,379,656; average attendance, 28 states and 4 territories, 4,110,526; not registered, 34 states and 6 territories, 4,608,803; private schools, 18 states and 5 territories 364,282; number of teachers in 32 states and 7 territories, 217,239. Total amount of school money raised by taxation, \$54,889,790.31; total amount by taxation and other sources, \$72,630,260.83; total amount expended in United States for public schools, \$70,891,981.83; total amount of permanent school fund \$65,850,572.93. A few states fail to give reports, so that the full amount is more than the table shows. The greatest expenditure in any state for all purposes is in New York—amount, \$9,607,903.81; next largest, Pennsylvania, \$8,333,032.98; next largest, Illinois, \$7,480,890; next largest Ohio, \$6,817,358.20." Not less than four hundred persons have applied for admission into Harvard College at the approaching examinations. This is unexampled in the history of collegiate examinations in this country. Mr. C. W. Golloupe, of Swampscott, has presented to Prof. Agassiz's school on Penikese Island a fully equipped eighty-ton yacht, worth \$2,000. The applications for membership in the school have already far exceeded the accommodations. The Professor desires to throw open to women all the educational institutions and facilities under his control. Mr. Elizur Wright proposes that there shall be a revised common school edition of the Bible, from which edition everything should be left out to which a good citizen of any or no religious creed could object. The Legislature of Texas has just passed, by a two-thirds majority, over the veto of the governor, an Act abolishing the Free School System. An exchange says that thus "over 127,000 children are turned out to attend dog fights." At the recent celebration of the twentieth anniversary of the Young Men's Christian Association at Washington, it was stated in the discussion that there were 10,000 children in that city not attending school, 20,000 adults who could not read, 24,000 who could not write, and a saloon for every forty. The new law in Illinois, doing away with discriminations as to sex in the election or appointment of school officers, takes effect on July 1st. The State Board of Indiana at its last meeting took the initiatory steps for the holding of several State Institutes during the summer vacation. County Superintendents were chosen last month in the several counties of the State. Indianapolis has given its high school a fountain in flowing order. The experiment recently made in Ohio of placing women at the head of all the schools below the high schools is pronounced decidedly successful. A class in journalism has been established in the Wesleyan University of Iowa. Under an Act passed by the Kentucky Legislature, in April last, an Industrial College is to be found-

ed at Louisville. In South Carolina, a private citizen has opened a school for the gratuitous education of the destitute orphans of Confederate soldiers, and to the institution is attached an agricultural and mechanical department. Regarding educational matters in Nebraska, the present Governor thus speaks: "We already have more organized schools, more school-houses erected, and those of superior character, more money invested in buildings, books and apparatus, than were ever had before by any state of our age. We have a land endowment embracing one-eighteenth of the entire area of the state. The value of local buildings ranges from one thousand to two hundred thousand dollars each. I am of the opinion that our whole educational system from common school to university, can, with sound and careful management, be made entirely independent of State aid within a few years." The English "National Union for Promoting the Higher Education of Women," has undertaken to establish courses of lectures on physiology, in London and the suburbs, for ladies and teachers in girls' private schools. High authorities aver that a generation of women, educated to understand and act in accordance to hygienic laws, would do more for the promotion of a higher standard of health than a whole army of doctors. Woman's Rights have received a signal triumph in the City of Mexico. In a recent competitive examination for the vacant Professorship of English in the Female College, Calle Santa Catharina, Senoritta Anglea Lozana carried off the prize triumphantly from six male competitors. She is the first lady in Mexico to fill such a position. Several practical school teachers stationed at Berlin are about to petition the Prussian Minister of Education on the subject of school age, which they are unanimously of opinion, ought not to begin before the seventh year. A dreadful state of things is declared by Dr. Schwabe, President of the Statistical Board at Berlin, to exist in that intelligent city. "Children," he says, "though much improved by public instruction, are strangely deficient in the knowledge of nature and natural phenomena. From about 1,000 children examined before being admitted into school, 777 never saw any rainbow, 633 a field of potatoes, 602 a butterfly, 583 the sunset, 462 the rising of the sun, 460 a meadow, 406 a cornfield, 387 a flock of sheep, 364 a forest, 264 an oak tree, and lastly 167 had never heard the song of a lark." Feminine emancipation progresses rapidly in Switzerland. One hundred and nineteen female students have entered at the Zurich University, this spring, as candidates for matriculation and the books are not yet closed.—*Michigan Teacher.*

IV. Education of Farmers.

1. PRACTICAL EDUCATION OF FARMERS.

At a recent meeting of the Farmers' Club of Markham Township, John Gibson, Esq., the President, said that the question intended for discussion (that of "Education as applied to rural districts,") was so generally known to the members of the Club to be the one for discussion on this occasion, that they would all be prepared to take it up to-day. The question of establishing a model farm and agricultural college was already settled, and he supposed the Government was too strongly supported by the people to be affected by any discussion relative to its usefulness. In the matter of high schools, he thought the question was one of such importance as to be discussed at a public meeting called especially for that purpose. A short discussion might now prove instructive and profitable. He would call on Captain Crosby to open the discussion.

Captain H. P. Crosby, M.P.P., understood that the question for discussion to-day included all branches of education, that immediately affected the education of farmers' sons, which would include the model farm and agricultural college, and also the high schools. He did not think the question of whether the Government did right in removing that institution from Mimico to Guelph came within the scope of the subject for this discussion. It was simply which was the best system to educate farmers' sons to make farmers, and to make farming a profession. He believed that farmers should have colleges established for the sole benefit of educating their sons to follow farming, as well as others to have colleges to educate their sons for doctors, lawyers, ministers, and mechanics, or merchants. There were colleges established in Canada for the education of all the professions, and he hoped that farming would be elevated to a profession, that farmers' sons might become proud of the calling, and they be induced to stick to it as a profession; then instead of its being considered a low calling, it would be one of the very noblest of professions. The farmers were the bone and sinew of the country, and should demand their inalienable rights. They should have the means to educate their sons to represent their own constituencies in the legislative halls, and be prepared to fill all the places of public trust in rural constituencies. The better

people were educated the better citizens they became, and there was no class of the population of Canada that were more entitled to a higher education than farmers' sons. The press throughout the land advocated it, and the majority of the people demanded it, hence the Sandfield Macdonald Government had established the agricultural college and model farm, and the present Government were carrying through the measure begun by them, and he hoped that soon the curriculum would be such as would give those attending a thorough knowledge of scientific farming. Many farmers' sons at present felt that the calling of a farmer was low and undignified, and too frequently sought to get education enough to get behind the counter, into a warehouse, or some other business more honourable. This was a great mistake. Just see the number of failures that occur in these classes, as only about one in fifty succeeded. Educate our sons to believe that farming is one of the noblest callings, as it is, and many that would otherwise despise it will become proud of it, and stick to it as a profession. An agricultural college, with degrees to confer and honours to be won, will have that tendency. If, as was anticipated, only a few of the many received the advantages to be derived from this college, they would exercise a wonderful influence in the neighbourhood in which they located. Some would follow their example, others would try to excel the college farmer, and a spirit of emulation would be created that could not fail to be beneficial. Competition was healthy and good. Our ploughing matches and agricultural fairs had a tendency to foster this spirit of emulation, and had proved a blessing to the country. Old country farmers coming in and introducing their system of farming, had proved a great blessing, by setting good examples, and scientific farming would still increase the profits of farming, and elevate it to a profession. So soon as farming became popular, we would find men going into it and following it, and becoming successful. He did not think the agricultural college and model farm would be so much used as a stock farm, but more for educating, in testing seeds, manures, and treatment of soils, farm engineering, draining, &c. There are so many good farmers in the business of breeding and importing of stock, and doing it successfully, that the Government would not interfere with them, as they had already proved a blessing to their country and to themselves. As with other educational institutions, when established, this college and farm would develop the branches the most desirable to be taught, and the discussions produced would draw public attention to farm education, and thus prove beneficial in that way. It would also keep pace with the times, as our common schools have done. The system of teaching and the text books have been greatly improved within the past few years. The high school was only a link between the common schools and colleges, but a very necessary one, and should be nourished and supported rather than crippled by the county council.

Captain Milne said, when he proposed this question for discussion, seconded by the Hon. D. Reesor, he thought it one of great importance to the farmers, and a very proper subject to be discussed by this Club. He had long felt that our sons were not receiving at our high schools an education of practical utility to farmers. Other branches of industry or professions required a preliminary study, and he thought such a course fully as desirable to learn farming as in any other business. Retired merchants or manufacturers frequently, in after life, go to farming, and many fancied that any person could run a farm or country newspaper. It was a mistake. As he had before stated, farmers required a practical education. He did not consider the dead languages of much service to farmers. He would prefer to see Dr. Ryerson's Agricultural Chemistry taught in the common and high schools. It should not only be taught in schools, but was worthy of a place in every farmer's library, and he regretted that it was not more generally read and studied by farmers. Alderman Mechi, Horace Greeley, and others, had written works on farming, but they were either too expensive or too theoretical for general application and use. This little book contained all the information required in a preliminary education, and would prove much more useful than the classics to farmers' sons.

The President said that he had never approved of the establishing of an agricultural college and model farm; could not see that it would be of much advantage to the farmers' sons. If we have to educate our children through universities, it would be rather expensive; it was not only the cost in money, but the time required to graduate was also a serious item, four or five years, at a time when our sons would be the most useful on the farm. Altogether it was, in his opinion, too expensive for many to reap much benefit therefrom. The high school was an educational institution that was adapted to the requirements of farmers' children, and he approved of the introduction as a study, of Dr. Ryerson's Agricultural Chemistry, instead of the dead languages. One year at the college would be useless to learn farming. Men had worked farms for fifty years, and still could learn much. Boys should be taught

the elementary branches in the high schools. He feared young men would not care to study these branches at universities, but would want to carry off greater honours. Farmers' sons can get a good and useful education in rural districts, surrounded by home restraints and home influences. Time is wasted in sending sons to universities, and services lost to the country. Education is soon forgotten unless utilized. He thought it was useless to expend \$50,000 to establish this college and model farm, and folly to change its site without a better reason than simply reports of members of a selfish committee. As it is established, he thought it best to drop the subject. The high schools were more beneficial to farmers, and should be encouraged; the trustees were not fairly dealt with; they were appointed by the county council, and empowered to employ efficient teachers, &c., and their districts made so small that it was impossible to raise the necessary funds. He could not blame councillors for trying to keep down extravagance, but could not see that any good would be derived from the passing of the by-law to make villages only high school districts. He thought it was imposing too much on them to compel them to furnish high school accommodation. Let the high schools be well managed, and they would prove more beneficial than any agricultural college. He admitted that it was difficult to legislate so unselfishly and justly as to give all equal rights, but if the Government would legislate more for the maintenance of high schools, and less for agricultural colleges, in which rich men's sons were to be educated, and the poor farmer taxed to pay for it, their educational policy, he thought, would give more general satisfaction.

Mr. Crosby contended that the farmers were as much or more entitled to proper educational institutions than any other class in Canada. Colleges were established for educating and conferring degrees on mechanics, lawyers, doctors, ministers and professors, and why should not farming be elevated to a science? He could not see that young men would be more likely to learn vicious and indolent habits at an agricultural college than any similar institution. He did think that one year spent in attending lectures delivered by professors, with laboratories to demonstrate, would have a beneficial influence on the agricultural education of farmers' sons. It would be to the high school what the high school is now to the common school. We have four high schools in the county, which should be supported by the county. He could not understand the action of the county council. They were intelligent and liberal, but he thought they made a mistake in passing the by-law making villages high school districts. High schools were as much, or more, of a benefit to the children of the poorer classes than to the rich, and much cheaper and better than could be obtained at the U. C. College, especially when good and efficient teachers were employed, such as now conducted the Markham high school. He did not think the county would withhold a grant for so laudable an object as that of high schools. Dr. Crowe and Mr. Reesor were doing all they could to advance the interest of the school, and spent hours out of the schoolroom in preparing lessons, so as to give the students the germ only. The council did appear to object to sustaining the high schools, but he thought they would not do anything to cause the county to lose the benefit of the Government endowment.

Mr. Milliken said he had not given much attention to the agricultural college and model farm question; he however had met Americans who lived adjacent to similar institutions who pronounced them failures. Mr. Hicks, who formerly lived in Canada, and now lived in Ohio, told him that their western agricultural schools were not as beneficial as was anticipated. It might be because their professors were not efficient. He thought that the study of agricultural chemistry might be very useful to farmers; but a knowledge of the quality of the soil, the best seed to use, and the right time to put it in, could best be practically taught on the farm. He did not think it would pay to send boys to college to learn to cultivate thistles, &c. He thought farmers' sons, intended for farmers, could get all the education they required at our common schools. Relative to high schools, he advocated the sustaining of them; but owing to the extravagance of some of the trustees, especially in the Richmond Hill high school district, the council decided to restrain them by throwing them on to the villages; another grievance was, that all who had to pay taxes could not enjoy equal privileges. Another reason was, that the law compelled the trustees to employ a second teacher, at a high salary, where the attendance was only sufficient for one. It was found by obtaining advice, that high school trustees had not the power to assess a district for funds to erect buildings. The ratepayers were finding fault, and the council had to take some action, hence the two by-laws. He contended that the villagers were the only parties who derived any benefit from them, and thought Messrs. Gibson and Crosby were selfish in arguing in favour of them being sustained by the county.

Mr. D. Eakin followed in much the same strain of argument, claiming that to make advantages equal, the villagers should board students from a distance gratuitously. He did not think that the farmer, outside, should assist in educating rich men's sons in villages. Thought college education did not benefit farmers. Education was a stepping stone to something higher. How many farmers' sons will follow farming after having received a high education? Mr. Tran did not think farmers required a commercial education. He had only attended school three months, and he knew of fifty others in Markham who were good farmers, and made money at it, that could only read, write, and add market accounts. Mr. Marr argued in favour of farmers receiving a superior education. The discussion was kept up in a spirited manner until tea was announced.—*Markham Economist*.

2. THE BETTER EDUCATION OF FARMERS.

We are apt to take too much of a dollar-and-cent view of the question of agricultural education. In so many years, a young man could earn so much money; will it pay him to give this up in order that he may get an education which will enable him in later life to make more money than he could without it? Will any education that can be gained at school make a better money-getter of a boy than would the same amount of time and attention given to learning the practical operations of the farm?

Without stopping to answer the propositions—which are foreign to our purpose—we desire to call attention to other considerations that must have weight with all thoughtful persons. The greatest prosperity of farmers, as a class and individually, must come from causes which will advance farming as an occupation. No permanent and satisfactory prosperity can attend any calling which is not held in good repute, and no calling in these modern days can be held in good repute which is not represented by at least a fair proportion of men of education and intelligence. In the so-called "professions," in mechanics, and in trade, the tendency is toward better and better education and a more and more cultivated intelligence, and the degree of respect in which they are severally held is in all cases proportionate to the intelligence of its representative men.

In the future allotment of honour and influence, and consequently of prosperity, that calling will take the lead whose representative men are the most distinguished for education and cultivation, and that will fall to the rear in which there has been the least progress in these respects. The road of the future is an ascending one, and progress over it is to be secured much more by the aid of mind than by the aid of matter. Those who take and keep the lead in the race will do so because of their brains rather than of their bodies, and the leadership will imply control over those who are behind (and therefore beneath) them. How far their rule will be merciful will depend on conditions which we cannot now foresee, but that they will rule is as certain as that mind has always ruled over brute force. If farmers can take the lead, farming will be a favoured and fortunate occupation. If they must fall to the rear, it will be a degraded and an unfortunate one. Whether it is one or the other, depends on the extent to which farmers are educated and enabled to stand a fair chance in the "struggle for the lead," and our successors will be the lords of the land or a down-trodden peasantry, according as they are educated or not. We assume, of course, that prosperity and intelligence will go hand in hand, and that as we gain in education we shall gain in wealth. At the same time, we believe that the best chance for the future of our craft lies in the ability of its representatives to take a high stand for education and intelligence. Believing this, we long for the better general education of farmers; not of those of the farmers' sons who are destined for other occupations, but especially for those who are to stay on the farm. Let us bring better trained brains to the performance of our work, and shed the light of cultivation and refinement over our hearthstones, and we may confidently look for a success which mere wealth could not secure.—*American Agriculturist*.

V. Papers on Practical Education.

1. EXPERIENCE vs. INEXPERIENCE IN TEACHERS.

Messrs. Editors—Having noticed in the May No. of THE JOURNAL an article entitled "Our Country's Hope," we were struck with the propriety of certain statements made therein. The writer says that the average age of teachers in the State is about twenty-three. If that is correct, many of the teachers must be much younger than twenty-three, for there are many aged and middle-

aged teachers who are constantly employed in our schools. There is an idea in some sections of the country, that seems to be gaining ground, namely—that young, inexperienced teachers, "fresh from the schools," are preferable to those of middle-age, who have spent many years in the study of the science and the practice of teaching. As soon as a teacher's locks show signs of turning grey, we frequently hear such exclamations as "old fogey," "behind the times," "unfit to teach," etc. When asked why such expressions are used, their reply is, "No such old persons should be employed to teach." Now we readily admit that such remarks may not be out of place, when made in reference to those who have not taught school for ten or fifteen years, or who have paid no attention whatever to school affairs. But when applied to teachers who are constantly studying, frequently teaching, attending institutes, etc., they lack both point and force. We take the view that experience is as necessary in teaching as in medicine, law, divinity, or any other calling in life. We are aware that some teachers succeed very well at the first trial; but, as a general rule, experienced teachers have better schools than those who are without experience. Young teachers must frequently be employed as a matter of necessity; but, in the opinion of the writer, large or difficult schools require teachers of mature age and special training, or much experience.—*R. Chadwick, in Pennsylvania School Journal*.

2. TOO MUCH OF STUDY.

Dr. C. N. Agnew, not long since in a public address, attacked the cause of disease, especially of the brain, the eye, &c., and wisely denounced the practice of overtaking the minds of school-children. He tells of a child twelve years of age who was brought to him with diseased eyes; he found that she had for a long time had an average of five daily tasks to prepare and recite; that these tasks filled the early part of the day, from nine to two, and absorbed most of the afternoon and evening; that she had shewn some appearance of being fagged, until finally her teacher, desiring no doubt to apply an additional stimulant, had added to the ordinary lessons the four following questions to be answered on the next Monday, this being Friday: 1. The names of the principal rivers in the United States. 2. The names of the principal colleges in the United States. 3. The coral islands of the Pacific. 4. The recent earthquakes in South America. Nor is this an unusual case. Fifty schools in New York, and thousands over the country, make similar excessive demands of pupils. It is all wrong, but parents love to have it so, and disease, pains, chronic infirmities, often premature death, are the results. Dr. Agnew does well to warn the public, but who will heed?—*Am. Paper*.

3. HOW I MADE MY SCHOOL-ROOM ATTRACTIVE.

I had a fine large house in the country, well lighted and ventilated, good desks, stained and varnished; a vestibule, closet and cellar; an A B C, and a multiplication card. These were my advantages. My drawbacks were discoloured, old-fashioned, ragged maps; a worn-out, tottering, rusty stove, with pipe, scuttle, shovel and zinc to match; and a black-board—minus the black.

My first movement towards reconstruction was to roll up the maps and put them under the cellar steps. My next, to meet the directors and ask for new ones. They bought them, and I hung them nicely, placing over each a green wreath, or a bunch of spruce or pine. After some persuasion, a director came and renovated the black-board, and I next attacked the stove. I depicted in glowing colours how we sat by that stove in blanket-shawls and overcoats, and nearly froze; and one bright day a new one was vouchsafed. I have kept it blackened ever since, and in summer we garnish it with flowers. It hasn't a pencil mark on it, and the nice square of zinc is washed daily. Then came a new scuttle and shovel, basin, cup and bucket, and I donated the leaky old ones to the boys, to help to build mill-dams and fortifications.

Meantime, I had cleaned the cellar; and the floor being hard and dry, it made a capital place for my merry band to play, in wet weather. I gave them the disgraceful old maps, and they used them for wigwams and tents, for flags and Indian blankets; and, with a few turkey feathers in their hats, and a few war-whoops, they rival the Modocs.

My children sing well. So one evening we sang for the public. I had my melodeon on the platform, and Nilsson was in the background that night. With the proceeds we bought spelling charts and an elocutionary chart.

The walls lost their blank look, and we began to draw long breaths of satisfaction, and to think it time to besiege the board again. The result was a magnetic globe and two chairs. My dignity hav-

ing suffered from a broken chair, I enlarged the pile of kindling with it. A carpenter, at work on some benches, made me a clock shelf, and on it I put a little clock, which cost a dollar and a quarter. I consider that clock a good investment, and to-day the crispest, freshest five-dollar bank-note could not buy it.

Then I collected among the children, and sent for some mottoes. Over the clock I put, "Lost time is never found again," and the rest I hung around the room.

I needed curtains. I scalloped and pinked some newspapers. After awhile I made a statement of grievances to the directors, and they bought me buff oiled linen. I made the curtains by sewing in pieces of lath, top and bottom, then fastening a long piece of black tape to the top lath, enabling us to roll them to any height.

I collected again, always encouraging the children by heading the list with my own name, and we bought a looking-glass and four towels, a jumping-rope and a ball. They take turns in having the towels washed, and, as we have combs and soap, there is no need of any one's being untidy.

Then a good, dear lady sent me a large corn-husk door-mat, a towel and a scrubbing-brush, and another sent me a large bunch of turkey feathers and wings for dusting. I began to be vain. Our school was steadily gaining a reputation for neatness and attractiveness, and I was complimented by visitors, directors and superintendent. The last suggested a school library. I began the work at once. Unfortunately, I could not handle a saw or plane very creditably, but I had a nephew who could; and, being deluded by a new necktie into believing that Aunt Bell was the best girl in Bucks county, he made me three nice hanging shelves. These I put up with red cord, tying the top with a broad ribbon that once did duty on a bonnet.

I collected books from parents and friends, and the work still goes on. The children have the use of the books at noons or to take home. In vacation, I visited in the family of a gentleman who superintended the putting up of signal stations, so I fancied he could make shelves also. He humoured my fancy by trying, and I triumphantly carried home in my trunk three nice shelves, which I hung on the opposite wall, and filled with my own library. Around these I hung my "SCHOOL JOURNAL," "The Educator," "Youth's Companion," &c., and gave the pupils the privilege of looking at any of them, at proper times, if their hands were clean. A book firm sent me two sets of drawing cards, and we collected and bought three sets more, also two flags, which are used by the children on election days and other great occasions. They differed so in politics, it was necessary that each party should have a flag.

I collected pictures from first-class illustrated papers, and every other available source, and covered the walls. Some I framed with straw, some I hung with scarlet yarn, and some I fastened with small tacks. I have a nice framed picture of the superintendent, and over a hundred other steel engravings, portraits, wood-cuts, and small chromos.

These pictures meet the eye at all times, and often at noons and on rainy days a little band will go all around the room and comment on them. I have never had a picture torn by a child. When the room is cleaned, I put them all carefully away. I made two capital scrap-books by pasting pictures on the plain pages of a number of illustrated papers, and also by using one of Vick's Catalogues in the same way, using small pictures. When tired of work, the little ones spend many a happy hour in looking over these and a number of Sunday-school papers which I sewed together.

I wanted carpets. I invaded my sister's store-rooms and lofts, and even coaxed some pieces off their floors, and made my own more presentable. Our last collection was a serious affair. We wanted an unabridged dictionary. I made out an alluring paper, stating our great need, and sent it around the neighbourhood. It was a success, and we had enough money left to buy a numeral frame and a magnet. I have beautiful flowers brought me, and very often I put a little bouquet on the vacant desk of a dear boy who left us two years ago for the happier world. His picture hangs on the wall, and the girls made three pretty crosses and placed around the frame. To-day my dead darling sleeps under the flowers he loved so well.

I have some bouquets of dried grasses, flowers, and autumn leaves; also a curiosity box, in which are Indian arrows, some beautiful shells and curious things from foreign lands. In my desk I keep camphor, cotton, sticking-plaster and old linen—and wounds, toothaches and bruises are cured magically. I keep peppermint and sugar, too, and the aches that juvenile flesh is heir to are speedily dispelled thereby. In connection with all other blessings, we have a rag-bag, pin-cushion, and mouse-trap. For the last we are truly grateful.

After vacation we are promised new writing charts. I have more pictures to frame, and shall make further improvements. I want my school-room second to none in the county. I have invested a

very little money, but a great amount of time and enthusiasm. I love my work; still better, I love my little workers. By their confidence and affection I am fully repaid for all my labours of love in their behalf.—Annabell Lee, in *Pennsylvania School Journal*.

4. ILLUSTRATIONS IN EDUCATION.

Herbert Spencer announces an important educational principle in the following words:—"Up to a certain point, appliances are needful for results; but, beyond that point, results decrease as appliances increase." Primary education, in all its departments, has need of objects, experiments, exhibitions, illustrations; but there is a point in every well-planned course of study beyond which all these are mere rubbish that cumbers the way. A child learns to count on his fingers or with his playthings; but how soon in the study of mathematics they are thrown aside as useless, and the student revels in a world of pure thought. The great naturalists begin their studies with plants, animals, rocks, stars; but they soon rise far above them, and enrich their minds with the broad generalizations that form the heart and soul of all science.

VI. Correspondence.

To the Editor of the Journal of Education:

DEAR SIR:—In the January number of your excellent Journal I find the following wise remarks:—"The preservation of health should be considered of prime importance in the erection of every school-house. Every thing else, including cost, comfort, and convenience, should be subordinated to this. Unless our children can be educated in a way compatible with the preservation of their health, it were better at once to tear down our school-houses, and abolish our school system. Minds refined, however highly, in broken-down and sickly bodies, are of very little practical value in this world. Again, in every school-house, without proper means of ventilation, there is a slow and subtle poison, which enters the blood and brains of the pupils, and saps the very foundation of life. There can be no escape from its deleterious influences; for exposure to it is a violation of one of God's laws. It seems also, from an examination of the schools in Detroit, no better state of affairs obtains in the United States: now all this is very sad. Instead of our children growing up to be stalwart men, and healthy and well-developed women, we see sickness around in every shape and form of disease, until it may truly be said, that America wants health. And so fearful is this state of things in the neighbouring Republic that it is generally conceded in a few more generations the American race would become extinct, were it not for the infusion of the foreign element, consisting of English, Scotch, German, &c. Now I believe we may justly fear a like result here, if we continue to neglect and despise, and break all the laws of health; and especially to permit our children both at home, in school, and in church, to breathe a vitiated atmosphere. Having been myself a teacher for twenty years, and suffering from such causes, I feel more deeply on the subject. I was very much pleased to find in your valuable Journal an extract from the *Montreal Gazette*, concerning Mr. Rawlinson's method of ventilation, since it throws additional light on a subject very imperfectly understood. I find an article in an English paper, stating that even the Parliament House in London is very badly ventilated; now one would expect, that here, at least, science and money would combine to produce something perfect, but unhappily such is not the case. I have been a constant reader of the *Journal of Education* for upwards of twenty years; and I feel pleased to see more attention paid to this affair. But until physical science is more efficiently taught in our schools, we cannot expect much. Wendell Phillips, in his lecture on the "Lost Arts," says, "That the ventilation of the Pyramids was the most perfect and scientific that could be found." He further says "That in Egypt, in ancient times, every question affecting the social happiness was discussed to rags." Would it were so now! Again, the most eminent physicians of England recommend that no teacher ought to be permitted to teach a public school without understanding the structure and functions of the different members of the human body, and a general knowledge of the laws of health. This is much wanted; there is only one serious objection. The number of branches already taught in our public schools is too great.

By inserting this in your valuable Journal, you will oblige

Yours, &c.,

HYGIENE.

5th May, 1873.

ONSERVERS:—*Pembroke*—R. G. Scott, Esq., M.A.; *Cornwall*—James Smith, Esq., A.M.; *Barrie*—H. B. Spotton, Esq., M.A.; *Peterborough*—J. B. Dixon, Esq., M.A.; *Bellesville*—A. Burdon, Esq.; *Goderich*—Hugh J. Strang, Esq., B.A.; *Stratford*—C. J. Macgregor, Esq., M.A.; *Hamilton*—J. M. Buchan, Esq., M.A.; *Simcoe*—Dion C. Sullivan, Esq., LL.B.; *Windsor*—J. Johnston, Esq., B.A.

Approximation. dOn Lake Simcoe. eNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. hOn Lake Ontario. iOn the Ottawa River. jClose to Lake Erie. kInland Towns. mOn the Detroit River. nInland Towns.

* Where the clouds have contrary motions, the higher current is entered here.

REMARKS.

PREPACONOUGH.—Thunder, with rain, 16th. Lightning and thunder, with rain, 27th. Wind storms, 5th, 11th, 16th, 19th, 21st, 26th, 27th. Fog, 9th. Rain, 4th, 11th, 14th, 19th, 24th, 27th, 30th. Large circle round moon, 9th. Month rather windy and very dry. Crops injured by drought of May and June.

BELLEVILLE.—Lightning and thunder, with rain, 14th, 16th, 27th. Wind storm, 19th. Crops injured by drought.

CONRAW.—Solar halo, 2nd. Lunar halo, 4th. Thunder, with rain, 5th. Lightning, with rain, 11th. Lightning, 27th. 28th, 29th. Lightning and thunder, with rain, 16th, 20th, 30th. Wind storms, 16th, 30th. Rain, 2nd—5th, 11th, 16th, 17th, 20th, 21st, 30th.

BARRE.—Lightning and thunder, with rain, 27th. Wind storms, 27th. Rain, 4th, 10th, 14th, 19th, 23rd, 27th, 28th, 30th. On 20th, a bright band of auroral light at 10 p.m., extending from N. W. horizon to Zenith.

23rd, 30th. Rain, 4th, 6th, 10th, 14th, 22nd, 23rd, 27th, 30th.

SIMCOE.—Lightning and thunder, with rain, 4th, 23rd, 29th. Wind storm 19th. Rain, 4th, 5th, 23rd, 24th, 25th, 29th, 30th. Month on the whole pleasant. Rain in cataracts, 24th and 29th.

WINDSOR.—Lightning, 13th, 14th, 25th, 26th, 30th. Thunder, with rain, 10th. Lightning and thunder, with rain, 4th, 14th, 22nd, 23rd, 24th, 29th. Rain, 4th, 6th, 10th, 14th, 22nd, 23rd, 24th, 29th, 30th. Meteor 16th in Z. towards N., and 18th in E. towards N., 20th in E. towards N.E., on 30th in S. towards H.

VIII. Biographical Sketches.

THE HON. W. B. ROBINSON.

William Benjamin Robinson was born at Kingston, 22nd December, 1797, the youngest son of Christopher Robinson, and brother of the late Sir John Beverley Robinson and Peter Robinson. He was married on 5th May, 1822, to Eliza Ann Jarvis, daughter of Secretary Jarvis. She died on 20th February, 1865, leaving no children. Mr. William Robinson entered Parliament in 1830, and continuously represented the County of Simcoe for a quarter of a century, from 1830 to 1857, with the exception of two sessions. He was Inspector-General in 1854-5; but resigned, feeling compelled to vote against his colleagues on the University Bill. In 1846-7 he was Commissioner of Public Works. In 1850 he concluded a treaty for the Baldwin Government, by which the surrender of the Indian lands on the north shores of lakes Huron and Superior was carried out. In 1852 he was appointed a Commissioner of the Canada Company, and on Mr. Widder's death, in 1864, succeeded to the Senior Commissionship, Senator Allan being thenceforth associated with him in the management. But possibly of all the public capacities in which the late respected gentleman figured, that which will most appeal to the interest of the present generation, is his introduction of the Act for the first macadamising of the York Roads—i.e., Yonge Street, Dundas Street, and the Kingston Road. This Act was passed on 13th February, 1833, and it recites that the inhabitants of the town of York and of the Home District will be much benefited by the contemplated improvement. A loan of ten thousand pounds to be secured on the tolls was arranged, of which £4,000 were at once to be expended on Yonge Street, £1,500 on Dundas Street, and £2,000 on the Kingston Road. On the 20th April, 1836, the Act 6 William IV., Cap. 30, was passed, reciting the thorough success of the previous expenditure, and empowering a further loan of £3,500; and the next year a third Act was passed providing for the expenditure of £100,000 on these roads. In 1837 Mr. Robinson went to St. Catharines, where he resided till 1844, busied with the superintendence of work in connection with the Welland Canal. He had for many years lived at Newmarket, where he owned the mills and stores once the property of Mr. Elisha Beaman, who, if we mistake not, had married the widow of Mr. Christopher Robinson. Says Dr. Scadding in his book, "Toronto of Old": "Most gentlemen travelling north or northwest brought with them, from friends in New York, a note of commendation to Mr. Robinson, whose friendly and hospitable disposition was well known:

'Fast by the road his ever-open door,
Obliged the wealthy and relieved the poor.'

Governors, Commodores, and Commanders-in-Chief were glad to find a momentary resting-place at a refined domestic fireside. Here Sir John Franklin was entertained for some days in 1835, and at other periods the Arctic travellers Sir John Ross and Capt. Back."

In private life Mr. Robinson was the incarnation of the fine old English gentleman. Possessed of rare humour and wonderful geniality, a joke ever came ready to his lips. He was kind, thoughtful, and remarkable for an urbanity and politeness of address but too seldom seen. Only a few years ago—in 1867—he paid his first visit to Europe, and enjoyed the sights of all that had by hearsay been familiar to him for half a century, with the zest of a youth on his come-of-age travels. It was, in fact, his extraordinary youthfulness in thought as well as movements, that made him one of the most delightful companions that old or young could desire. His familiar figure will be missed, and his kindly voice lamented in a large circle of friends and relatives.—*Mail*.

T. D. HARRIS, ESQ.

The deceased gentleman came to this city a great many years ago, and by his business industry and integrity he established himself as one of the foremost hardware merchants in Upper Canada. He took an active part in every public matter that had a tendency to add to the importance of Toronto, and justly gained the warm esteem of his citizens. A few years ago the deceased gentleman

retired from active business and accepted the important position of harbour-master, in the possession of which office he departed this life. His many friends will hear with deep regret of his departure from among them; because he was always found to be a true friend to those needing assistance, an obliging neighbour, and a most devoted advocate of those principles which tended to elevate humanity and foster a spirit of loyalty to his Queen and country. His end was peace; and he has been gathered to his fathers in the full hope of a bright immortality. The flag of the York Pioneers—of which the deceased gentleman was a member—was flying at half-mast yesterday, from the dome of St. Lawrence Hall, as a mark of respect to his memory.

3. BARON LIEBIG.

Baron Liebig, the great German chemist, died on Friday, at Munich, aged 69 years. His reputation as a scientific investigator dates from his twenty-first year, when he read before the French Institute at Paris a paper on the chemical composition of fulminates, which attracted the attention of Humboldt and other high authorities. His whole life was devoted to scientific researches of a practical nature, which have resulted in a vast number of discoveries tending to increase the comfort and welfare of the human race. His investigation of the subject of animal and agricultural chemistry, and of the chemistry of food, have made his name famous throughout the world.

IX. Educational Intelligence.

—MCGILL UNIVERSITY.—At two o'clock on Friday, the 2nd ult., the members of Convocation of McGill College met in the Library. The Chancellor being absent, the chair was taken by Mr. George Moffatt, Senior Governor. The meeting was opened with prayer by the Venerable Archdeacon Leach. After the Affirmation the graduating class was presented for the degree of B.A., which was conferred by the Vice-Chancellor. A well-written Valedictory was then read by Mr. D. C. McLeod. He adverted in proper language to the high literary training afforded by McGill, and exhorted his fellow-graduates to preserve a memory of their sojourn there. The graduating class of Applied Science having duly pronounced the affirmation, were presented for the conferring of the degree of Bachelor of Applied Science, which was conferred by the Vice-Chancellor, after which another Valedictory was read by Mr. J. F. Torrance, B.A. This discourse, on the advantages of scientific culture, was written with much elegance and delivered with feeling. The farewell to Professors and fellow-students was affecting. Then followed an eloquent address by Ven. Archdeacon Leach, LL.D. The prevailing idea of the speech, replete with wise counsels and erudite observations, was the gradual progress of McGill University from humble beginnings to its present high and commanding position. It stood now, by universal consent, one of the first institutions of the land. The degree of M.A. was conferred by announcement. The recipients of the honour were John Hindley, Montgomery Jones, John McIntosh. The Registrar announced that the degree of D.C.L. in course had been granted to Professor Lafamme, Professor Lafrenaye, and Professor Kerr, Q.C. After the signing of the Registration Book, the degree of D. C. L. was conferred on the two latter gentlemen, Professor Lafamme not being present to receive the degree. The Vice-Chancellor then delivered the following address:—

MR. CHANCELLOR.—The retrospect of the past year, more especially with reference to that Faculty to which this meeting of convocation properly belongs, presents a few salient and pleasing features, to which I may be excused for inviting the attention of members of convocation and our friends. One is the increased number of our students in Arts, which has in the present session risen to 112, making with those in the other faculties no less than 300 students actually in attendance on the classes of the University; and I believe when on the occasion of the recent visit of His Excellency the Governor-General we had all these men assembled in this hall, we had probably a larger number of actual students than any other University in this country has been able to boast. Further, our students are not merely residents in this city, or even in the Province of Quebec. The majority of them are from other Provinces, and some from places beyond the limits of the Dominion.

The increase in the number of our students in Arts is, it is true, partly owing to the institution of our Department of Applied Science, and partly to the connection with us of affiliated Theological Colleges whose students attend our classes as regular or partial students; but though we would desire a larger increase in the number of undergraduates in Arts, it is still true that those who take even partial courses of study derive inestimable educational advantages; and our students in Applied Science must be held to be as important to the welfare of the country as any class of men that we can train. The special feature of this meeting of convocation is, indeed, that we now confer for the first time, not only here but in Canada, the Degree of Bachelor of Applied Science. In providing for such a degree we are not only following in the wake of the greatest and most successful Universities abroad, but are doing a work specially demanded in this country at the present time. Canada has pledged itself to the world to cultivate and utilize wild regions more vast in proportion to its own means and population than those of any other country. This work cannot be done by mere traders and labourers. It requires all the resources of modern culture and science. But it requires not that culture which fits for literary leisure, but that which fits to tame the wildness, to utilize the hidden treasures of the earth, and to remove obstacles and open up channels for the current of civilization. This

as the kind of culture which can be given by schools of Applied Science. One remarkable feature of this effort is that our peculiar position in the Province of Quebec seems to shut us out to a great extent from that public aid which elsewhere is now so liberally given to that practical education which fits for the higher branches of scientific work. Here a School of Practical Science rises under the impulse of private liberality. This, while a just ground of pride to the citizens of Montreal, is after all a condition of things which should if possible be improved; and I hope that ere many years our success will call down a golden recognition from the legislature of our country. That success will depend much on the influx of zealous and well-prepared students; but the value of our course of study, and the opening to useful and profitable work which it secures, should ensure us a large influx of such students. Already the inquiries which have reached me portend a large increase in the numbers next year, and the fact that our classes have already attracted men from very distant parts of the Dominion is of happy augury. While our own growth has been thus encouraging, we have also reason to congratulate ourselves on the success which has attended the affiliation of colleges with the University. Morin College, more especially, sends us a satisfactory report. One graduate in arts represents it in our lists to-day, and two undergraduates who have passed their intermediate; but it returns nine regular students, and has had special classes in literature and science in the past winter, which were attended by no less than 164 additional students. Principal Cook and the other friends and supporters of Morin have just reason to congratulate themselves on this success, and the city of Quebec has good reason to be thankful for their efforts. One of our affiliated Theological colleges has realized a handsome endowment, but is erecting an elegant and commodious building in the vicinity of the University, and has had, in the past season, more than forty students. This great success, though it has depended mainly on the exertions of Principal MacVicar, is undoubtedly in part attributable to the educational advantages of the University, and should encourage other religious bodies to avail themselves of these great advantages toward the education of a cultured and efficient ministry, able to cope with the difficulties and controversies of our time. To return to the Faculty of Arts, the centre and nucleus of our College work, I have now to congratulate the Dean and Professors on the close of a successful session. To the former, who has now for 27 years been connected with this University, and has been a witness alike of its early struggles and present success, it must be pleasant thus to see the growth of an institution with which he identified himself when it was small and despised, and which has vindicated his wisdom and forethought as an educationist working, as he long did, in advance of the ideas of the time. In the coming session the Faculty of Arts will be enabled, for the first time, to take possession of and occupy the whole of the space prepared for it in the College Buildings, and thus to provide more effectually for the accommodation of its enlarged classes. A few years ago we had to thank our most liberal benefactor, Mr. William Molson, for the thoughtful gift of a fund for the enlargement of the library. We now have to acknowledge a similar benefaction to form a museum fund. Such aids I regard as of great value. The library, museum and apparatus of a university are not like a building, set up to remain. They are like a tree planted, to grow and bear fruit, and if not tended and nourished, they become dwarfed and die. Constant growth and care-taking are essential conditions of their useful existence. Hence such funds as the William Molson library and museum funds are of the utmost value, and there is ample scope for many such benefactions. But the crowning benefaction of the educational year is one which we are permitted to announce only to-day—the endowment of the John Frothingham Chair of Mental and Moral Philosophy with the sum of \$20,000, by a daughter who thus fittingly desires to enshrine the memory of a revered parent, a zealous promoter of education in its early struggles in this city, and a former Governor of the University. Such benefactions are, as Lord Dufferin well said in his recent visit to the University, the true patent of our Canadian nobility—which will hand down to all time, through successive generations of teachers and students, the honoured names of those who are inscribed on the roll of University benefactors. In closing my review of the session, I should notice the fact that we send out from our classes this year no less than sixty graduates in Law, Medicine, Arts and Applied Science; that fourteen students have been deriving benefit from the scholarships and exhibitions founded by Mr. McDonald, Mrs. Redpath, Mr. Alexander, Mr. Taylor, the Board of Governors, and the Caledonian Society; and that fourteen of these aids are offered for competition in the next session. We should also notice with satisfaction the evidences of healthy life manifested by the University Literary Society in its courses of public lectures, the formation of two companies of volunteers among the students, through the zealous exertions of Mr. Barnjum, and the effort of the undergraduates to establish a college Gazette. Such spontaneous efforts of the younger members of the University are, I think, always to be hailed with pleasure when they take the character of educational, literary and scientific progress, or of active patriotic exertion. And now, with much feeling of short-coming and deficiency, but with much gratitude to the Father of mercies, who has smiled upon our work, and with sincere prayer for his continued blessing on all connected with the University, we bring its fortieth session to a close. The proceedings closed with the benediction pronounced by the Rev. Dr. MacVicar.

The following is a list of prizes, honours, and standing, as read by Prof. Johnson:—

FACULTY OF ARTS.—Passed for the degree of B.A., in Honours (Alphabetically arranged).—James G. Allan, Charles J. Fleet, Richard L. MacDonnell, Duncan C. McLeod, Charles H. Murray, Herbert L. Reddy, Arthur F. Ritchie, Simon J. Tunstall. *Morrin College Ordinary*—Hamilton Cassells. Passed for the degree of Bachelor of Applied Science. Course of Civil and Mechanical Engineering (in order of relative standing).—Donald A. Stewart, Henry H. Wicksteed, Clement H. McLeod, Robert J. Brodie, George T. Kennedy, M.A. Course of Mining and Assaying—John Fraser Torrance. Passed in the intermediate examination. *McGill College*.—Class I. George H. Chandler, Elson J. Rexford, Class II.—Alexander Donovan, David F. Hawley, Robert H. Eccles. Class III.—W. F. Ritchie, Finlay Malcolm. *Morrin College*.—Class I.—Gustavus Stuart; Class II.—A. G. Elliott. Bachelors of Arts proceeding to the degree of M.A. in Course—John Hindley, Montgomery Jones, John McIntosh. **PRIZES, HONOURS AND STANDING.**—

Graduating Class.—B. A. Honours in Classics—Richard A. MacDonnell—First Rank Honours and Chapman Gold Medal; Arthur F. Ritchie, First Rank Honours. B. A. Honours in Mathematics—Duncan C. McLeod, First Rank Honours, Anne Molson Gold Medal and Anne Molson Prize. B. A. Honours in Natural Science—Charles H. Murray, First Rank Honours, Logan Gold Medal and Logan Prize for collection of Fossils. B. A. Honours in English Literature—James G. Allan, First Rank Honours and Shakespeare Medal; Simon J. Tunstall, First Rank Honours; Herbert L. Reddy, First Rank Honours; Charles J. Fleet, First Rank Honours.

The assets of the College at the date of the report were distributed as follows:—Endowment Fund, \$23,888.36; Scholarship Endowment Fund, \$924; Library and Fixtures, \$9,000; Balance on hand from ordinary annual revenue, \$1,012.69; Balance on hand from Library Fund, \$36.91; Special subscriptions for ordinary revenue extending over a period of four years, \$8,000; Subscriptions for College Building Fund, \$35,500; Total \$79,097.84. The number of students was reported to be 47. The Board observed with pleasure the large number of students in the graduating class of the session, and the cheering prospects of the French department. The state of the several funds charged with current expenses was very satisfactory. At the instance of several of the largest contributors towards the supplementary subscriptions for ordinary revenue, the sum of \$500 was voted to the purpose of making an increase in Dr. MacVicar's salary. In last year's report it was stated that an eligible site for College buildings, adjoining McGill University, had been purchased, and subscriptions procured for this purpose to the amount of eighteen thousand dollars. The Board now begged to report that the buildings were in course of erection, and would be completed before the spring of next session; and while the canvass is not yet finished, the amount subscribed is thirty-five thousand five hundred dollars. The Board made the following recommendations for the approval of the Assembly:—1. That the Rev. J. M. Gibson, M.A., be appointed lecturer in Exegesis for next session. 2. That the collection for the training of French students and for French evangelization be taken up, as last year, in all the congregations of the Church. 3. That the Assembly appoint a Professor of Church History and Apologetics, and the Board expressed an earnest desire that the overture of the Presbytery of Montreal for the appointment of Rev. John Campbell, M.A., be granted. 4. That the Rev. Dr. MacVicar be appointed Principal of the College. 5. That the temporary addition made to his salary be confirmed. 6. That the recommendation of the French Evangelization Committee for the increase of Professor Cousin's salary to sixteen hundred dollars per annum be concurred in. 7. That in case lecturers be required for next session, the Board be empowered to appoint such.

The correspondence between the Senates of Montreal and Toronto Colleges relative to the retirement of Messrs. Johnson, Currie and Stuart, three students from Knox College, without leave from the Senate, and their subsequent admission into the Montreal College, was also submitted and read by Rev. Mr. Gibson.

The annual report of the Board of Examiners of Montreal College was presented and read. An overture was read from the Montreal Presbytery, praying that Dr. MacVicar be appointed principal of Montreal College; also, an overture praying for the appointment of a Professor on Church History and Apologetics. The papers read relative to Knox and Montreal Colleges were received. A discussion ensued on the case of Messrs. Johnson, Currie and Stuart, and a motion was carried that in so far as the papers from the Montreal and Knox Colleges refer to the case of Messrs. Stuart, Currie and Johnson, the Assembly sustains the action of the Senate of Knox College, and further remits the case of these students to the Senate of Knox College, to be dealt with as in their judgment may seem best, and should the Senate thereafter see fit to grant certificates to these students and their standing, they shall accordingly be so admitted, and in the case of any of these students who may have finished their studies, any Presbytery to which they shall present the certificate of the chairman of Knox College, shall take such students on trial for license.

MORRIN COLLEGE.—The report of the Governors of Morrin College to the Church of Scotland Synod was read, of which the following is a synopsis:—175 students were on the roll, including members of ladies' classes. Six students were preparing for the Church; one had received degree of B.A. in McGill University, and two had passed the intermediate examination. By receiving an additional grant from the Provincial Government, the authorities had been enabled to engage Mr. George Dawson as lecturer in chemistry, whose services had been very valuable. The attendance at the evening classes had been very encouraging. Rev. Dr. Cook, Principal of the College, expressed his confidence in its future, although owing to the small number of Protestants in Quebec, where the College is situated, a great increase in the number of students could not be expected. A vote of thanks was passed to Rev. Dr. Cook for his services to the College. Mr. McCall and Mr. Lindsay were appointed Governors of Morrin College, in room of the two retiring Governors.

KNOX COLLEGE.—The annual report of Knox College was read by Dr. Topp in the General Assembly of the Canada Presbyterian Church. The number of students had been fifty-six—forty-one in the theological department, and fifteen in the literary department. A considerable number of young men looking forward to the ministry are passing through a university course. The income of the past year from all sources had been \$9,226.90, and the expenditure was \$9,307.84; leaving a balance against the fund of \$80.94, instead of \$365 as last year. The Endowment Fund was now \$5,192.10. The Bursary Fund received \$508.04, being the balance from last year—\$1,199.70 in donations and interest, and investments repaid \$1,300. The expenditure was \$1,750 invested; bursaries and scholarships, \$1,186; printing and stationery, \$42.89, with a balance of \$90.46. It was agreed that while the thousand dollars received from the Alexander bequest be in the meantime used for current expenses of the College, that sum should be a first charge upon the income for the present year, and that the action of the Board in this matter be reported to the General Assembly. Had it not been for this sum of \$1,000 having been added to the income, there would have been a considerable deficit in the fund for the current expenses. The appointment was recommended of an additional professor with a lecturer, and also a day of special prayer for the College. \$40,400 had been subscribed towards a new College building, and arrangements had been made for a larger and more advantageous site.

—Rev. W. McLaren, of Ottawa, was appointed Professor of Systematic Theology, of Knox College, and Rev. Mr. Campbell was appointed to the Chair of Church History at Montreal.

—MONTREAL COLLEGE.—Rev. J. M. Gibson presented and read the annual report of the Board of Management of the Presbyterian College of Montreal.

—ALBERT UNIVERSITY.—The seventh annual Convocation at Albert University, was held in the afternoon of Wednesday, June 18th, in Ontario Hall, Belleville. A large audience was in attendance. The platform was crowded with the Professors and Senators of the University, amongst whom was the venerable Bishop Richardson. Convocation having been opened in due form, and prayer having been said by the Bishop, the proceedings were commenced by the admission of matriculants. The newly admitted students having gone through the necessary formalities, were addressed by the Chancellor of the University on their duties to the institution, to themselves and to their country. Prizes and honours were then awarded as follows, several reverend gentlemen, Dr. Nichol, of Montreal; A. F. Wood, Esq., of Madoc; the Mayor; A. Diamond, Esq.; —Warner, Esq.; Prof. Dawson, and other gentlemen representing the fortunate winners: MATRICULANT PRIZEMEN.—A. M. Morris, the Macdonald Bursary and Professors' Prize in Physiology. B. R. Wolever, Second Proficiency Prize. R. I. Warner, the Holden Prize in English. MATRICULANT HONORMEN.—First Class.—*Mathematics*.—A. M. Morris, J. A. Campbell. *Classics*.—A. M. Morris, B. R. Wolever. *History and Geography*.—A. M. Morris, R. I. Warner, B. R. Wolever, P. Badgley and J. A. Campbell, equal. *English*.—R. I. Warner, A. M. Morris. SECOND CLASS.—*Mathematics*.—F. W. Merchant, P. Badgley. *English*.—B. R. Wolever, Mr. A. M. Morris then delivered the Latin Salutary and Mr. Warner a humorous English oration, after which Dr. Frazer's anthem, "Domine Salvum Fac," was sung. The Divinity Testimonium was then conferred upon Rev. Erasmus Irvine Badgley, who subsequently received the degree of B. D. Theses for B. A. were delivered by Messrs. T. W. Crother, on "Expediency," J. B. Barton, on "The Moral Cycle," P. L. Palmer, "Thought," and E. F. Chamberlain, "Privilege of Parliament;" this gentlemen also pronouncing in an eloquent voice the valedictory of the graduating class. As literary efforts, the theses of Messrs. Crothers, Palmer and Chamberlain were highly creditable; the language of the first-named being especially well chosen and the delivery evincing the possession by the speaker of a considerable amount of natural power. Mr. Barton's reading was unfortunately inaudible throughout the greater portion of the hall.

ADMISSION TO DEGREES.—B. A.—Peter Leving Palmer, Edmund Lewis Chamberlain, Thomas Wilson Crothers, Jesse Billings Barton, M. A.—Charles Augustus Kingston, B. A. Daniel Caswell McIntyre, B. A. L. L. B.—Roger Conger Clute. B. D. Rev. Erasmus Irvine Badgley, M. A. UNDERGRADUATE PRIZEMEN.—SENIOR SOPHISTERS. P. L. Palmer, the Scott Prize for General Proficiency; P. L. Palmer, the Hamby Prize in English Prose; E. L. Chamberlain, the Sills Prize in English Prose; E. L. Chamberlain, the Senate Prize in Mathematics; T. W. Crothers, the Professor's Prize in Oratory; T. W. Crothers, the President's Prize in Metaphysics. SENIOR FRESHMEN.—J. W. Wright, Harry Nichol Memorial Prize for General Proficiency; B. M. Brisbin, the Gould Prize in Natural Science. JUNIOR FRESHMEN.—W. P. Dyer, the Burdett Prize for General Proficiency.

UNDERGRADUATE HONORMEN.—First Class.—CLASSICS.—J. W. Wright, Sen. Fresh. MATHEMATICS.—E. L. Chamberlain, Sen. Soph. METAPHYSICS.—T. W. Crothers, Sen. Soph.; P. L. Palmer, Sen. Soph. Second Class.—MATHEMATICS.—P. L. Palmer, Sen. Soph. Just previous to the close of the proceedings, President Carman made a few remarks with reference to the endowment of the University after which the benediction was pronounced and the audience separated, the Convocation having been the most successful ever held by the University.—*Intelligencer*.

X. Departmental Notices.

ADMISSION OF PUPILS TO THE HIGH SCHOOLS.

With reference to the circular from this Department, dated the 4th July, and published in the last number of the *Journal*, the Council of Public Instruction has thought proper, in consequence of representations as to the shortness of the notice, and the difficulty of holding the examinations for admission to High Schools, at the close of the Midsummer vacations this year, to adopt the following minute, which has been approved of by His Excellency the Lieutenant-Governor in Council:—

"Ordered—That in order to afford the amplest opportunity for notice and preparation for the first uniform examination for admission of pupils to the High Schools, that part of the

thirteenth regulation, which requires the entrance examinations to the High Schools immediately after the close of the summer vacation, be suspended for the current year, and that these first examinations this year take place the first two days of the autumn term of the High Schools, namely, the thirteenth and fourteenth of October next."

COUNCIL OF PUBLIC INSTRUCTION FOR ONTARIO.

The vacancies in the Council of Public Instruction having been filled up by His Excellency the Lieutenant-Governor in Council, the members of that body as now constituted are as follows:—

REV. E. RYERSON, D.D., LL.D., Chief Superintendent.
VERY REV. H. J. GRASSETT, B.D.
REV. JOHN JENNINGS, D.D.
MOST REV. JOHN J. LYNCH, D.D.
REV. JOHN MCCAUL, LL.D.
HON. W. MCMASTER.
VENERABLE T. B. FULLER, D.D.
WILLIAM MCCABE, Esq., LL.D.
HAMMELL M. DEROCHE, Esq., M.A., M.P.P.
JAMES MACLELLAN, Esq., M.A., T.C.

EXAMINATION PAPERS.

The sets of Examination Papers used in the Normal School during the 20th, 21st, 22nd, 23rd and 24th Sessions can be sent free of postage on receipt of 30 cents each. Those of the 25th, 26th, 27th, 28th, 31st, 33rd, 36th, 38th, 39th, 40th, 41st, 42nd, 43rd and 44th Sessions, at 40 cents each, and those of the 45th, 47th and 48th Sessions, at 50 cents each.

The entire sets of Examination Papers for First, Second and Third Class Teachers for July 1871, or July 1873, neatly stitched, can be sent free of postage on receipt of 60 cents per set. Those used at the County Examinations for Second and Third Class Teachers for July 1871, July 1872, December 1872, or July 1873, can also be sent, free of postage, on receipt of 50 cents per set.

SCHOOL REQUISITE SPECIALTIES.

Myer's Zones of the Earth. A set of 10 Coloured Tablets, shewing the productions of the Zones. In Portfolio, with Descriptive Handbooks, price	\$5 00
Pictures for Elementary Instruction—Useful Plants—in two parts. Book form, with Handbooks	4 00
Balfour's Botany. Set of 4 Charts	10 00
Frang's Natural History Series for Schools. A set of 206 Pictures of Animals and Plants, represented in their Natural Colours, and arranged for instruction with Object Lessons.	10 50
Oliver & Boyd's Object Lesson Cards on the Vegetable Kingdom. A set of 20 cards, with Mounted Natural Specimens. Price in box.....	5 50
Hawkins' Comparative View of the Animal and Human Frame. In book form. Price.....	1 95
Cutler's Anatomical Plates. Set of 8 Coloured Charts.....	10 00
Do. Do. Do 10 Do. Do.	12 50
Human and Comparative Anatomy. A set of 9 Charts. Price.....	14 00
Johnson's Indestructible Charts.	
Set of 10 Philosophical Charts, with Illustrated Key	20 00
Chart of the Solar System	3 50
Morrison's Skeleton Chart of Ancient History	2 00
Taylor's Sovereigns of England.....	1 50
Malcolm's Royal Family of Great Britain	1 50
Mechanical Powers. Hardwood frame, having 3 sets of Pulleys, 2 sets Brass Weights, Levers, Capstan, Screw, Inclined Plane, Wedge in Sections, &c. Price, with Descriptive Card and Box	17 50

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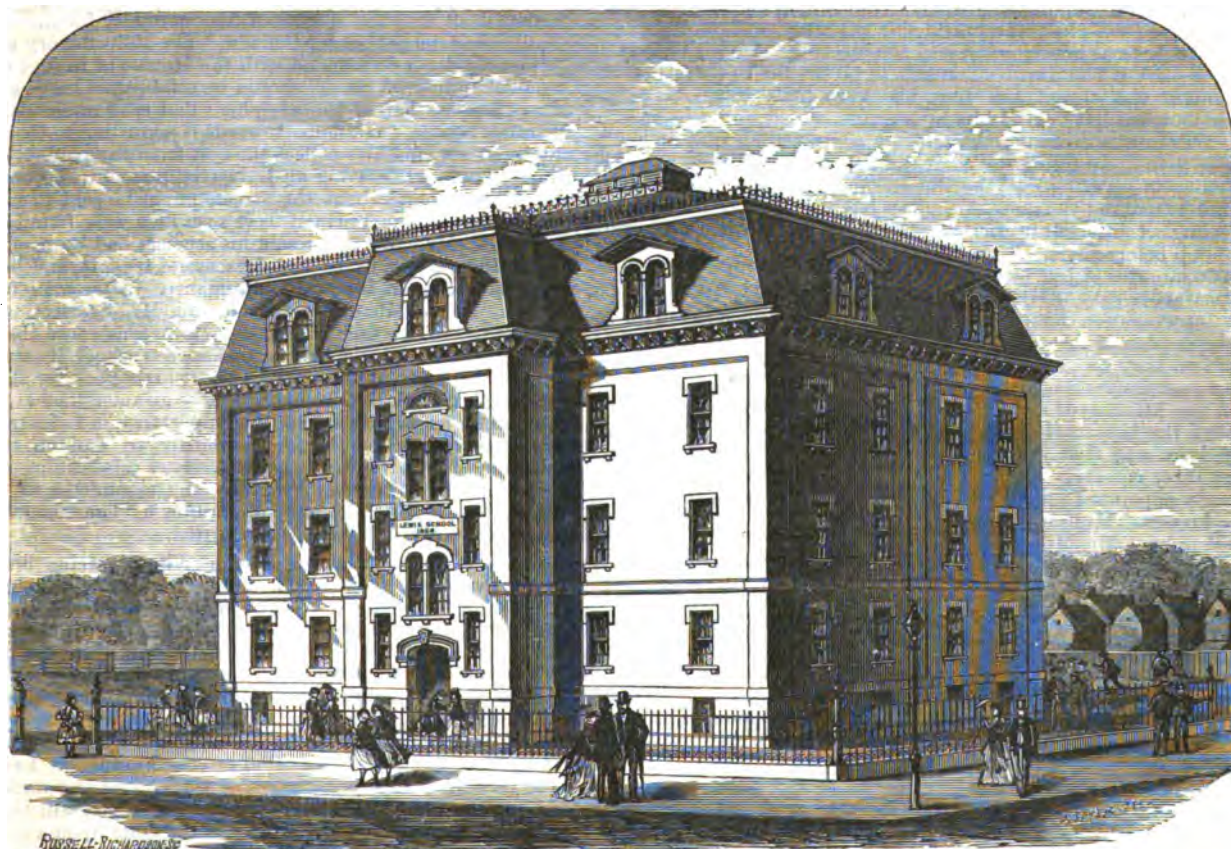
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LEWIS GRAMMAR SCHOOL-HOUSE.

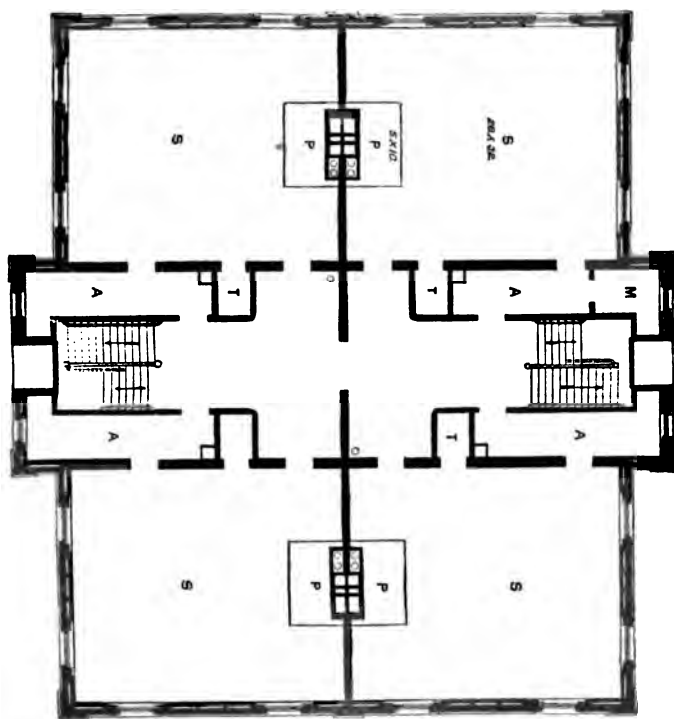
The accompanying perspective view and cuts show the architectural style of the edifice and the arrangement of the rooms.

In each of the three stories there are four school-rooms, twenty-eight feet by thirty, with a spacious clothes-room and teacher's closet attached to each. In the Mansard roof there is a large exhibition hall, about sixty feet by seventy-five. It is heated by four hot-air furnaces, as shown on the plan of the basement. The standing work is of brown ash, unpainted, and the floors are all of the best southern hard pine. Each school-room is furnished with fifty-six single desks. The master's room is put in communication with all the other rooms, by means of bells and speaking tubes. The hall is furnished with settees of the best description.

The building is well proportioned, and the pressed brick with which the four walls are faced, and the white granite trimmings, produce a pleasing contrast.



LEWIS GRAMMAR SCHOOL-HOUSE, BOSTON, MASS.



FIRST, SECOND AND THIRD STORIES.

S. S. S. School rooms.
A. A. A. Clothes closets.
T. T. T. Teachers' closets.
M. Master's room.

ONTARIO TEACHERS' ASSOCIATION, 1873.

The thirteenth annual convention of the Ontario Teachers' Association was held in the Theatre at the Normal School Buildings.

The first day's session commenced at three o'clock p.m. Prayer was offered up by Dr. E. Crowle, after which Mr. Robert Alexander, of Newmarket, who presided in the absence of the President, Prof. Nicholson, briefly addressed the meeting. He remarked that he was sorry it had devolved on him to fill the chair; sorry that the President was absent, but they had very little to regret, as the President had left behind him an address, which would be read by Dr. Wilson this evening; the address contained all that he had to say to them. In filling the chair, he hoped those present would all aid him in carrying out the duties, and he hoped the meeting would be marked the same as the last one was, with conformity and a feeling of interest in the discussion on the papers that would come up before them.

The minutes of last meeting were taken as read.

INCORPORATION.—Mr. McMurchy, in presenting the report of the Incorporation Committee, said the Committee had asked for the incorporation of the Association as a Society; all they asked for was that they should be allowed the privilege and right to elect to the upper institution three or more members. They were aware that the Attorney-General, Mr. Mowat, had introduced a Bill to amend the Upper High School Law of Ontario; but what they asked for was that the teachers should be conceded the right to elect three members to the board. He asked that the Committee already appointed should be continued. The Committee consists of Messrs. Hunter, Alexander, Anderson, McLellan and McMurchy. Mr. Miller, of Goderich, moved, and Mr. Johnston, of Cobourg, seconded, "That the report be received and adopted, and the request of the Committee granted that they be continued."—Carried.

INDUSTRIAL SCHOOLS.—Mr. Samuel McAllister read a paper on the subject of Industrial Schools. He remarked he had called attention to the condition of vagrant and neglected children five years ago, and suggested a method how many might be reclaimed. Although there had been discussion in the press upon this subject, yet no attempt to deal with this dangerous class of children in this country had been made, and they were allowed to grow up in ignorance and crime. According to the School Report there were 38,000 children in Canada between the ages of five and twelve who did not attend school, 5000 of whom were between 7 and 12 years of age. He asked the questions:—Where are these children, and what becomes of them? Why are there no means adopted to train

them as other children? These children are of three classes. Those who have no natural guardians; those whose guardians are indifferent, and wilfully neglect their careful training; those whose guardians, although well intentioned, lack power and influence over their children. A considerable portion, however, of those ignorant children grow up and spend useful lives, as shown by many who mark their signature with a cross through their inability to write, but a large portion go to swell the ranks of vice, for vice works hand in hand with ignorance and idleness. According to the Prison Inspector's Report, three-fifths of prisoners had no education, or were very imperfectly educated; two-thirds of these were put down as labourers, or have no occupation. He considered imprisonment had very little good effect on prisoners. Many of the prisoners were in gaol from recommitments. He had himself seen a boy who expressed satisfaction at being sent to gaol for six weeks. By the Prison Inspector's Report, one-third of the gross committals to prison were recommitments. The plans on which prisons in Canada were conducted were subversive to the reformation of the inmates. It had been asserted by the Toronto gaoler that he had more hope for a boy committed for 24 hours than one committed for 24 weeks. He remarked on what he considered the inaccuracies of the returns made out as to the cost of the maintenance of prisoners. The cost of each prisoner in 1872 was returned as \$15 40—it should be \$20 26; this divided by the average number of days prisoners were committed—27½ days—would give \$1 6 per day, or \$7 42 per week; this was a liberal allowance for criminals. The question was, how should they reform this class? Compelling them to go to school had been tried, but there remained another plan yet untried; completely withdrawing them from the vice with which they are surrounded, and putting them into an industrial school, where they could get a proper training and be taught habits of industry. The paper spoke of the satisfactory results of the working at the Western House of Refuge, Rochester, of similar establishments at Philadelphia, Massachusetts, and New York. 75 per cent of the children sent to the school in Massachusetts are reported as doing well; two-thirds of those discharged from Industrial Homes in England and Philadelphia were reported as doing well. This was sufficient to warrant the establishment of such an institution in Canada. The age of the inmates averages from 12 to 14 years. The cost of the Western House of Industry was \$2 60, which is decreased to \$1 95; New York House of Refuge \$2 21, decreased to \$1 24; Philadelphia \$2 47, decreased to \$1 45; average cost, \$1 55. At the Massachusetts Home the cost was \$3, which he supposed was the actual cost of each inmate. The paper further dealt with the subject of the necessity for the establishing of an Industrial School for Canada. The Reformatory at Penetanguishene did not correspond with the Houses of Refuge mentioned. A model Industrial School should be established here nearly on the same plan as that at Philadelphia; that each municipality should be called on to contribute towards it according to the number of children sent, and also collect the cost from the parents of the children. There was need of an Industrial School in Toronto, so that the children found about the streets might be sent to school. Dr. Kelly asked if the Truant Officer's services were found effective in Toronto? Mr. McAllister said his services had been effective and satisfactory, so far as to the decrease of truants, and in his school there had been an increased attendance. After some further discussion, Mr. J. P. Groat moved, and Mr. Scarlett, of Cobourg, seconded, "That this Association have considered the subject of Industrial Schools, and believe that such a school, if established by the Government, would result in doing great good for the people of Ontario." Mr. S. E. Glaisher moved as an amendment, "That this Association having considered the importance of Industrial Schools, hereby appoint the following Committee to wait on the Government and impress on them the necessity of establishing one or more of such schools in this Province, the committee to be Messrs. McAllister, Kirkland, and McCallum." The amendment was seconded by Mr. J. H. Smith.—Carried.

PRESIDENT'S ADDRESS.—Professor Wilson having briefly stated the reason of the absence of Professor Nicholson, who had gone on a scientific excursion to the United States, read the following address:—GENTLEMEN,—The best and most satisfactory thanks that I could possibly return for the honour you have done me by electing me as your President, would consist in the delivery of an address of some permanent weight and value. For this, however, I feel that my powers are insufficient, and that if my gratitude should be measured by any such standard, I shall be found to fall far short of the due appreciation of your kindness. I trust, therefore, that my hearty recognition of the honour you have conferred upon me may be taken as granted, and that you will be content to listen for an hour to some scattered thoughts upon a subject upon which I have often reflected—the position, namely, that science ought to take in education in general, and more especially in the

education of the young. In examining this question, it is very desirable that we should have a clear idea as regards two points of fundamental importance, namely, the meaning to be attached to the word "Science," and the object, or objects, which are to be aimed at by any rational form of education. Perhaps no better definition of "Science" need be sought than that which simply defines the term as including all those branches of human knowledge, the ultimate data of which are to be acquired solely through the medium of the senses. I am aware that this definition would exclude such so-called sciences as Psychology and Metaphysics, the ultimate data of which can only be acquired by the operation of the internal consciousness of each individual. I am aware, also, that the generalizations of all branches of science are the result of intellectual operations, and are not acquired by any study of merely sensual phenomena, however profound. Still, for our present purpose, the above definition may be taken as sufficient, since it includes all the sciences which are ever likely to be taught in schools. In other words, it includes the so-called Physical and Natural Sciences, embracing all those branches of knowledge which are concerned with the investigation of the phenomena of the inorganic and organic worlds of nature. We may stop, then, here to note that under this definition the sciences may be regarded in a two-fold aspect, whether we look at them from an educational or from any other point of view. The data of the sciences, the facts which each comprises, are learnable by the senses, and are not truly or genuinely learnable by any other medium or channel. It is true that we may learn some or all of the facts of a science out of a book, by the exercise of a mental power alone, and without ever having submitted a single one of these facts to the test of the five senses. We may do so; but assuredly no genuine knowledge of sense was ever obtained in this way, and the sciences, if they are to be learnt or taught after this fashion, certainly present no advantages over many other studies. On the other hand, the scientific, as compared with the non-scientific knowledges, have the peculiarity that they are grounded in the sensuous and natural life of the human being. They reach the higher spiritual plane of the organism through the senses, and it is properly by "the five gateways of knowledge" that scientific truths should be imparted to the learner. Hence, the sciences present, to begin with, the inestimable advantage that they can be taught, as regards their simpler and more fundamental data, at a time when the higher mental faculties are comparatively undeveloped and in abeyance. Indeed, from the moment that an infant opens its eyes upon the world, it commences a course of scientific education, which is carried out exclusively through the senses, and which is none the less complete because it is involuntary and unguided. Science may, and often is, so taught in later life as to deprive it of this inevitable advantage, but it remains certain that the practical teaching of science can be commenced at an earlier period of life than can profitably be attempted with the more ordinary branches of education—if only upon the ground that the senses attain their working powers much sooner than do the intellectual faculties. Whilst the data of the sciences are grounded in the senses, the deductions from these data are purely intellectual, and hence science, in this second aspect of its two-fold constitution, stands in precisely the same educational position as any non-scientific branch of knowledge. The facts of the sciences can only be discovered in the first place through the medium of the senses; and even after they have been once discovered, and have thus become common property, they should nevertheless be handed down from individual to individual through the same channel. On the other hand, the generalizations of science are super-sensual, and are the result of purely intellectual operations. The observation of the celestial phenomena which constitute the ground-work of the science of astronomy can be carried out solely through the sense of sight, but no acuteness of vision, no complexity of apparatus, no repetition of investigation and research, would lead to the discovery of the law that the radius vector describes equal areas in equal times. We pass here from the region of sense into that of rational mind and intellect. The physical properties and phenomena of a thistle are presumably as well known to a donkey as they are to the highest of human beings—in so far, at any rate, as the senses of the two are equally efficient; but the latter can draw certain deductions from the facts which he knows about the thistle, which might perhaps embrace the constitution of the solar system in their scope, and which, at any rate are entirely undreamed of in the philosophy of the former. Hence, science is in its essential condition composed of two departments—one embracing the facts of science, which are acquired by the use of the senses, the other comprising the deductions and generalizations of science which are due to the working of the intellect upon the facts previously determined by the senses. Hence also, science, from an educational point of view, must be regarded as fundamentally a quality—its data being most fitly taught to the young, in whom the senses are most active, whilst its generaliza-

tions are most suitable for later periods of life, in which the senses are not so acute, but the intellectual faculties are more highly developed. This leads us to consider next, very shortly, what are the objects which should be sought to be attained by any form of education, and we cannot hesitate in arriving at a decision on this point. All conceivable forms of education must, to be of any value at all, do one of three things, or more than one of these things combined. The conceivable advantages to be derived from any study come under one or more of the following heads: 1. *Discipline*, or the training and development of the mental faculties: 2. *Culture*, or the improvement and development of the emotions and higher faculties, together with the unfolding of the natural æsthetic capabilities of the individual: 3. *Utility*, or the acquisition of certain knowledges, which will be of actual practical value to the individual in his struggle for existence in the particular society in which his lot may be cast, and will secondarily enable him to be of use to his fellow-men. I do not propose to enter at all into a discussion of the great controversy, whether the above objects of all sound education are attained more perfectly by a scientific or a classical training, or a judicious intermingling of the two. For my present purpose, leaving other branches of education to fight their own battle, it will be sufficient to show that science fulfils at any rate two of these objects—fulfils them at least as perfectly as any more generally favoured department of knowledge. At the same time there can be no question but that an ideal education is many-sided; and no knowledge, however profound, of a single subject entitles a man to the honourable designation of "educated." The learned German philologist, who did not know what potatoes were when he saw them, in spite of his enormous erudition, was no more an "educated" man, in the proper sense of the term, than is a man of science who is totally devoid of literary culture. To be altogether "*teres atque rotundus*," a man must know something of many things, and everything of something. The only real practical question lies in whether those individuals—and there are, unfortunately, many of them—who have time and opportunity for examining but one of the facets of the crystal of knowledge, should confine their attention to the scientific, or the non-scientific, branches of study. Into this question, as I have already said, I do not intend to enter; but I shall endeavour to point out how far the sciences fulfil the three great objects of education, namely, discipline, culture, and utility, and how far they fall short of securing these objects when they are compared with other departments of study. Firstly, as regards *discipline*, I apprehend that I need say very little as to the value of scientific studies. That the study of physical and natural science is at least as efficacious in developing and training the mental powers as any other branch of human knowledge, I shall assume, I hope rightly, as being generally admitted. Witness—if witness be needed—the unchallenged position occupied by Mathematics, at once the handmaiden and the mother of so many of the sciences. There is, however, one point of view in which the disciplinary value of science is especially apparent, as depending upon the two-fold constitution of science to which I have already alluded. Other branches of knowledge develop more especially the intellectual faculties, but science, in addition, trains the senses. The labour necessary for acquiring the facts of science, immensely increases the power of observation, and sharpens and develops the senses: whilst the study of the generalizations of science constitutes one of the severest forms of intellectual training. It may fairly be claimed, then, that the educational discipline afforded by the study of science presents certain advantages over that afforded by all non-scientific branches of study. It cannot, however, be too strongly insisted, that in order to realize these advantages, science must be taught *practically*. It is not enough for the teacher to rely upon books, either for his own knowledge or for his teaching. He must himself have some personal knowledge of his subject, and the facts which he brings before his pupils must be illustrated by actual examples, drawn from the world around him. Any science which cannot be taught thus practically had better be omitted from school education. Every school pretending to teach science should have a small museum and laboratory attached to it. Every pupil pretending to learn science should be encouraged to collect and examine natural objects for himself; to verify in person all the more important facts which he is asked to believe; and to test by his faithful senses the truth of the statements which he hears from his teacher or meets with in his books. Of course, some sciences are more susceptible of this mode of treatment than others, and there is nothing invidious in saying that in this most important respect chemistry has immense advantages, as regards school education, over other branches of science. There is no excuse for not teaching chemistry practically, but there would also be little difficulty in the practical teaching of geology, physiology, zoology, or botany in schools. In any case it is not fair to judge of the value of science, as an educational agent, from its results, when

not taught in this practical manner. All scientific authorities are agreed in stating that science can only be taught in one particular way—that is, practically—and is it not, therefore, reasonable to condemn the results of science-teaching, unless the teaching has been carried out on this system? As a matter of fact, however, the introduction of science-teaching into schools has invariably proved most successful, in every single instance in which the instruction has been made practical in its character. Under these circumstances science yields to no other branch of study as a means of mental discipline. In the second place, as regards culture, it may at once be conceded that science is inferior to other branches of study, such as literature—with, however, the very important proviso that the studies in question cannot claim any superiority in this respect unless they are carried beyond a certain point which is rarely reached in schools and not commonly attained even in a university. The literary appreciation of Homer and Æschylus, of Juvenal and Tacitus, of Shakespeare and Tennyson, presupposes a high culture, much higher than could be afforded by the study of science. But how often and to what an extent can the ordinary educational course of schools be said to be conducive to literary culture? In England, certainly, in the great public schools, it cannot be said that the educational training is favourable to “culture” in the high sense of the term. On the contrary, the tendency of English school-life is to produce what the Germans understand by “*Philistines*.” How many boys in the highest form of a large English school appreciate the beauties of one of Horace’s odes, or would find the smallest difficulty in reading the death of Agricola in the original with an unflinching voice? However, not to dwell upon this I willingly concede that the prosecution of literature in its higher walks gives rise to a form of culture more elevated, more polished, and more spiritual than is produced by the study of science. I will also willingly admit that the too exclusive study of science in certain temperaments, is apt to harden the mind, to close the eyes to the higher and less tangible elements of human life, and to disturb the true balance between the intellectual and emotional faculties. Nevertheless these defects are not inherent in the culture produced by science, and there is another aspect to the question. It is easy to make the step from nature to nature’s God. To the religious temperament the study of science must ever conduce to that highest of all forms of culture, the culture that is implied by reverence. It is a common charge against science that it is materialistic; but the charge is unfounded. Science fluctuates, like many other things, and it at present may tend towards what is commonly called materialism. I venture to assert, however, that science is in its essence religious, and that the time is not far off when this will be generally recognized. At any rate—and this is all that concerns us here—there can be no question that science tends to produce a profounder admiration of the wondrous works of the Creator, as displayed in the visible universe, a truer appreciation of the real objects of human life, and a more intelligent compassion for those who ignorantly sin against the unalterable laws of existence. In the third place, enquire what educational standing science can claim on the score of *utility*. Here, again, I conceive that the claims of science are undeniable. Always admitting that the ideal education would consist of a judicious mixture of scientific and non-scientific studies, we must remember that the time allotted by the majority of mankind to learning is too short to allow of this general culture: and that the average school-boy is not likely to master thoroughly more than one department of knowledge. Having painfully mastered the “three R’s,” the average school-boy is driven to make choice as to what set of studies he will embrace; and his choice is, or ought to be, guided by a due consideration of what knowledges will be most *useful* to him in his future life. I say, then, that the claims of science are in this respect undeniable. Most men in civilized communities lead lives of an eminently practical character; and it is no exaggeration to describe human existence as being in its essence an incessant struggle with the national forces by which man is environed. The more intelligently this struggle is carried out, the higher is the stage of civilization which is attained to, and every victory in this fight raises man nearer to his ideal condition. I am far from saying that the satisfaction of his material wants is all that the man requires for his happiness and his welfare. Man is more than an animal, and has wants other than those of the day. Nevertheless, it seems tolerably certain that no great spiritual progress is possible where man’s material wants remain unsatisfied; whilst the satisfaction of these wants in all cases depends directly or indirectly upon the completeness of the harmony between man and nature.

And how can this harmony be brought about? Surely in no other way than by instilling into the plastic minds of our children some knowledge of the world they live in; some love for the wonderful nature by which they are surrounded; some acquaintance with the laws which govern the universe. Most men, as I have

said before, lead lives of an eminently practical character. In winning their bread they are brought daily into contact with natural productions; they conduct operations depending entirely upon natural laws, or they have to deal with artificial products or machinery removed by the skill of man but one stage from the raw material of nature. It were easy for me to unroll before you the long list of scientific achievements of which our present civilization is the direct outcome, but there is no necessity for this. The common working life of man pre-eminently demands a knowledge of common things; and this knowledge can only be obtained from science. How, then, can we doubt the utility of science as a branch of education? It appears, therefore, to me that if a boy has to choose between obtaining a certain limited knowledge of science or a certain equally limited knowledge of some non-scientific study, such as the classics, he will act wisely in choosing the former. If he can acquire both, so much the better; but if he has only time for one, utility alone, in my opinion, demands that he should choose science. Is the farmer more likely to succeed in discharging his functions in life by being able to construe a little Virgil, or by knowing something of the laws of chemistry? Will it more profit the skilled artisan to be able to string together Latin verses or to know something of mechanical laws? But I will not multiply examples of this kind. I will only draw your attention to one more consideration. No one but a medical man can estimate, even imperfectly, the amount of misery, disease, and even vice, which depends more or less directly upon the gross public ignorance of the commonest natural laws, and which might be more or less completely removed by the general diffusion of scientific knowledge. How many lives might be preserved if mothers but knew the rudiments of physiology, or had the faintest acquaintance with the structure and functions of the animal body? How much suffering might be obviated if there were but any general knowledge of the more important laws of health? How many of the ills to which humanity is heir might be mitigated or altogether abolished if sanitary science were but understood by those who frame municipal laws? Upon the whole, then, I contend that the claims of science as a branch of education stand as follows:—As regards discipline, science is at least as good an educational agency as any other branch of study, and it is unequivocally better than many. As regards culture, science does not stand as high as literature, but it nevertheless holds no despicable position. It confers a peculiar culture, which, if different in kind to literary culture, and inferior in value, is, notwithstanding, genuine and real. At any rate, some knowledge of science is essentially bound up in the ideas comprised by the term “educated.” A man may be as “leavened” as you please; but he is certainly not an “educated” man, if he is unable to state why water boils, or why the mercury falls in its imprisoning tube at the approach of rain. Lastly, as regards utility, science stands perhaps pre-eminently high, so long, at any rate, as our present civilization maintains itself unchanged. There are, and probably always will be, departments of human activity in which the knowledge of other subjects is more important than that of science. It is, however, probably impossible to over-estimate the material benefits which would accrue from the general introduction of science into education. It is difficult in treating of a matter of this kind to avoid—whatever conclusion one may arrive at—the censure meted out to the saddler who openly expressed his belief that “there was nothing like leather.” I have not, however, really exposed myself to this censure, if I have succeeded in making my views clear. In advocating the claims of science, I by no means wish to disparage other branches of study. On the contrary, I have merely tried to show that the full value of science as an educational agent has not as yet been generally recognized. It is to be remembered, also, that it is, in the nature of things, the last comer who has to assert himself. The non-scientific branches of study are in possession of the field, and sit serene in the honour which is conferred by time alone. Science finds it necessary, in its position of a comparative stranger, to introduce itself to the public, to divest itself of some of its natural modesty, and, if necessary, to obtrude its claims with something of self-assertion. If I have established my position that science has high theoretical claims for a recognized place in general education, I should, in conclusion, like to say a few words upon the practical difficulties which attend the carrying out of these claims in actual life. The difficulties in question are by no means confined to Canada, though perhaps more conspicuous here than in older communities; and they may be summed up under three heads:—1. The difficulty of obtaining competent teachers; 2. The difficulty of teaching science practically; and 3. The difficulty of obtaining suitable school-books on scientific subjects. In the first place, the difficulty of obtaining competent teachers, though a very serious one, may be lightly passed over, as its origin and remedy are alike clear. Science has suddenly risen into importance in education, and there

has, therefore, not elapsed sufficient *time* to develop a body of teachers sufficiently large and sufficiently well-informed to meet the wants of the new era. In so far as the evil arises from this cause, it may safely be left alone, as it is certain to cure itself in the long run. Worse than this, however, is the fact that the place of science in education has not yet been sufficiently, or at all generally, recognized; that there is no appreciation of the necessity of a special teacher of science in every large school; and that there is, therefore, little encouragement for our young men in devoting themselves to the study of science. This, however, is also likely to cure itself in time; and the supply is certain ultimately to equal the demand. Worst of all is the lamentable but undoubted fact that those who would teach science in many cases do not recognize that the one essential qualification of a teacher in science is direct, personal, and practical acquaintance with the facts to be taught. Book-knowledge may do well enough for some branches of education, but it is an utter failure in science so far as concerns teaching. And, the more elementary the scientific knowledge to be imparted, the more urgent the necessity that the teacher should not be speaking simply at second-hand. When this fact is once recognized, we shall hear less of the difficulty of obtaining an adequate supply of science-teachers qualified for their work; and it can hardly escape recognition in any reform of our higher institutes of learning. There is, therefore, reason to hope that this first difficulty, by which the establishment of science, as a branch of general education, is assailed, will be removed in the regular course of events.

In the second place, we have to confront the difficulty to which I have already alluded, that science-teaching is valueless unless conducted upon a practical basis, and that it cannot, therefore, be easily carried out in schools. The first part of this proposition I shall not dilate upon, as all scientific authorities are entirely in agreement about it. No one, whose opinion upon the subject is worth anything, doubts that the value of science-teaching lies in its being strictly practical to begin with. Not only must the teacher be practically acquainted with his subject, but the pupil must have the facts of the science presented to him in a tangible form. He must learn from *objects*, and not merely from books; and he must be encouraged to collect his facts for himself. At first sight it appears very difficult to carry this out; and our schools, as at present constituted, are certainly little adapted for the development of this idea in practice. There is, however, no reason in the nature of things why this should be so. The objects and apparatus absolutely essential for teaching any given branch of science are not numerous, and could readily be obtained, at little cost, by any large school. As regards some of the sciences, such as Geology, Natural History, or Botany, the objects necessary for practical teaching are, to a large extent, directly accessible to both the teacher and his pupils. There is no reason why every large school should not acquire for itself a good local museum, embracing the natural objects, organic and inorganic, of the surrounding district. Such a museum would be largely recruited from the collections made by pupils themselves, who would thus be stimulated to independent observation, and who would, unconsciously and without effort, acquire knowledge which could but painfully and imperfectly be gained from books. Such a museum, also, would supply the teacher with many of the objects necessary for class-demonstration; and, it is not too much to say, would be of considerable practical value to the professional scientific observer. That this idea is not chimerical has been proved by the practical experience of such well-known English schools as Rugby and Marlborough, and I do not despair of seeing it more or less completely realized in this country. In the meanwhile I can but insist that the teaching of science merely out of books, if not absolutely injurious or worthless, is no fair test of the value of science as an educational agent; whilst I do not see any insuperable difficulty in the way of teaching at any rate some of the natural sciences in schools in a thoroughly practical manner.

I could have wished to say more upon this subject, but I must conclude with a few brief remarks upon the third difficulty to which I have alluded—the difficulty, namely, of obtaining good text-books on science—to which I would add a few words on the comparative advantages presented by the different sciences as regards school teaching. The difficulty of obtaining good text-books arises from two causes, one peculiar to our educational system, the other universal and confined to no particular country. The latter is simply the fact that many very unreliable and inaccurate text-books of science are in existence, owing to the common but most erroneous idea that anyone can write an elementary text-book on any subject of science. The truth is that it requires a profound, and above all a practical knowledge of the subject to enable a writer to produce a good text-book for beginners on any branch of science. This may sound paradoxical, but it is undeniably true.

To put the same truth in another form, it requires less knowledge of a subject to teach grown up men than it does to teach boys. Adults are much better able to supply any deficiencies that there may be in the teaching for themselves, than young people are, and the latter require the simplicity and directness of exposition which is never found apart from extensive and profound knowledge. Everyone who has been at any time engaged in the practical work of teaching, will admit this, and I need say no more about it. The fact, however, is not generally recognized, and hence two-thirds of the scientific text-books in existence are entirely unsuited for the purpose aimed at by their authors.

It follows from the above that the choice of good text-books in science is by no means an easy matter; and it may reasonably be doubted if the existing machinery is sufficient for the discrimination of the few good from the many bad. The text-books to be employed in the schools of this Province are selected by the Council of Public Instruction. Now, I do not wish to say a word in disparagement of this body, the duties of which are very onerous; but it cannot be overlooked that of the members of the Council by which the existing scientific text-books were chosen, no one possessed any special practical acquaintance with science, or could claim to be accepted anywhere as an authority on any department of scientific investigation. It so happens, therefore, that whilst science-teaching occupies a recognized place in the school system of this country, there is no adequate provision for the selection of suitable scientific school-books. And, as a matter of fact—indeed as an almost inevitable consequence of the constitution of the Council—the authorized text-books of science are in several instances of a very inferior character—a most serious evil, when it is considered that the science teaching in schools is almost exclusively from books. Hence, also, the singular omission of certain science subjects very well adapted for school teaching, and the introduction of others that might well be dispensed with.

Of all the departments of natural science which can be taught in schools, chemistry, probably, takes the first place, owing to the facility with which its fundamental facts can be practically brought before the learner. The amount of apparatus necessary for demonstrating the more elementary phenomena and laws of chemistry is not very large, and can readily be obtained by any of the larger schools. Dealing also, as it does, with inorganic or dead nature, it is free from the complexity which attends the biological sciences. For these reasons chemistry is, perhaps, the best subject which can be chosen with which to commence a course of scientific study; and it has the additional advantage of being most closely interwoven with many departments of practical life. I need only add that Roscoe's "Elementary Chemistry," the authorized text-book, is written by a master of his subject, and is everything that could be desired.

Botany can be readily taught in schools, provided the instruction is more or less confined to the summer months, and is of a strictly practical nature. There is not the smallest difficulty in obtaining actual examples of plants whereupon to demonstrate the more important facts of botanical science; and there is, therefore, absolutely no excuse for teaching this subject from books. Under any circumstances it is more than doubtful if any benefit is gained by extending botanical instruction in schools beyond the simpler facts of vegetable organography and physiology, along with, if possible, some acquaintance with the commoner wild plants of the country. Botany is so overlaid with technicalities that it does not seem advisable to go beyond this. The authorized text-book, Dr. Asa Grey's "How Plants Grow," is an undoubtedly good book, but has several disadvantages. The flora, which occupies one-half of the work, might profitably be omitted, and the work is not distinctively Canadian. At present no better text-book could perhaps be obtained, but I trust to see ere long an indigenous work on this subject by some native botanist, which will more fully meet our wants. The teaching of Natural History in schools is attended with considerable, but, I think, not insuperable, difficulties. Biology, or the science which treats of the laws and phenomena of animal and vegetable life, can be taught without much difficulty, but the teaching of systematic zoology is a far harder matter. Still, if only the practical method be adopted, zoology would prove a most useful branch of school education. If the teacher would simply teach to his pupils the peculiarities of all the common animals, domestic or wild, which he can get hold of, much would be gained. In this way a basis would be formed for the prosecution of deeper and higher studies in zoology. The pupil should study *types* instead of *groups*, and should study these practically; and there is really little difficulty in obtaining characteristic examples of the leading classes of the animal kingdom. When once this is understood, zoology can be taught with profit, and every large school can readily accumulate specimens of the comparatively few types of animal life required for this mode of instruction. In the meantime it is, perhaps, best

to confine the teaching of zoology almost exclusively to what would commonly be understood by the term "Biology." The authorized text-book of Natural History, Mr. Ellis Davidson's "Animal Kingdom," is probably as bad a work upon the subject as could have been selected. It is crowded with inaccuracies and mis-statements of every sort and kind; its style is most objectionable, and it exhibits conclusive evidence that its author has neither enjoyed the advantages of a classical training, nor has even a moderate knowledge of the laws of English composition. Altogether it is entirely unsuited for its ostensible purpose, or, indeed, for any purpose that appears upon the surface.

Geology is a subject which might advantageously be taught in schools, and its omission is quite inexplicable. It has most important bearings upon various departments of practical life (as, for example, husbandry), and it can very readily be taught practically, finding its illustrations in every railway cutting, brook course, or mountain side. It has also most intimate and important relations with the subject of Physical Geography, which may, indeed, be regarded as nothing more than the Geology of the present. The number and excellence of the introductory text books on this subject render it invidious for me to name any one in particular, but it is questionable if Professor Page's "Introductory Text Book of Geology" has ever been surpassed for teaching purposes.

Physiology, though in many respects a subject of great importance, can only be taught with considerable difficulty in schools. Comparative Physiology can be best taught in connexion with Natural History; and the more special departments of Human Physiology should only be touched upon within certain very definite limits. In any case, physiological teaching is useless, unless illustrated with numerous diagrams. As regards text books, Cutler's "First Book on Anatomy and Physiology" may be in most respects commended; but the little book entitled "Our Bodies," by Mr. Ellis Davidson, is open to the same censure as the work by that author on Natural History. It is the production of a writer who has no practical acquaintance, and but a very imperfect second-hand knowledge of his subject, and who labours under the additional disadvantage of a marked want of literary training.

As regards Mechanics, it may be questioned if this subject can be profitably taught in schools, except by the aid of mechanical models and diagrams, such as are seldom available. The elements of Natural Philosophy, however, may be seasonably and advantageously taught to advanced pupils, and there is no difficulty in obtaining suitable text-books on this subject.

Lastly, as regards Agriculture, it is chiefly of importance to note that this subject is not a *Science* at all, in the strict and proper acceptance of the term. Agriculture is what is sometimes, though inappropriately, termed an "Applied Science." It is an "Art." In other words, Scientific Agriculture consists in the application to husbandry of the sciences of Chemistry, Natural History, Botany, and Geology. These sciences can, as regards their elements, be taught with profit in schools; but agriculture can only be learnt upon the farm, and should find no place in ordinary school education, nor indeed in any course of study which cannot be carried out and enforced practically. Holding this view, as I do very strongly, it seems unnecessary that I should offer any opinion upon the merits of the authorized Text-book of Agriculture.

In closing this imperfect address, I can merely thank you for the attention with which you have listened to opinions in which you may find yourselves, perhaps, in some cases unable to concur. The subject is one upon which probably no two men think exactly alike; and I am far from supposing that my own views are altogether free from objection. I have, however, felt it my duty to express my views upon this important subject with perfect candour, it being better not to speak at all on such questions than not to speak freely and unreservedly. I can simply hope that if we should differ, we may "agree to differ" without any diminution of mutual respect. Votes of thanks were unanimously passed to Professor Nicholson for his ably written paper, and also to Professor Wilson for reading the same.

SCHOOL ORGANIZATION.—Mr. Inspector Miller, in introducing his subject, remarked that if teachers found their school not properly organized under the supervision of the School Inspector, he (the teacher) should set about organizing the school himself according to the limit table, so as to have the work of the school placed on a proper basis; until teachers do so, they would not be doing justice to themselves or those placed under their care. Thorough examinations should take place, and a complete record kept of all work done in the school. He dealt with the subject of tests. Teachers should endeavour to make their pupils believe they were earnest in their work. He considered it was better to give short lessons to pupils than long ones. The teacher should do all in his power to establish a good feeling between himself and his pupils. A teacher should devote much time to review, which would help him in his

after studies. There should be a time-table kept in each school. A class-book should be kept in which to keep a record of the work of each class on every day of the week, and every month the pupil should receive a report as to the progress he had made in the different branches of study. General registers should be kept. He deprecated teachers allowing pupils to do the work they (the teachers) should do. If they did not do their work themselves they had better not do it at all. The speaker further dealt with school organization. A desultory conversation ensued as to matters in connection with school organization. A unanimous vote of thanks was passed to Mr. Miller for his address.

EUCLID AS A TEXT-BOOK.—Mr. Thomas Kirkland, M.A., read a paper on Euclid as a text-book. He criticised Euclid's defects, while admitting the benefits arising from a properly conducted study of Geometrical science. He argued that there was strong presumptive evidence against the value of Euclid as a text-book from the following facts: That it has been virtually abandoned on the continent of Europe and in the United States, being retained mainly in England and Canada; that it was written nearly 2,000 years ago, and therefore must be very imperfect on account of its not embodying late discoveries; and that it was not intended to serve the purpose of an elementary text-book at all. The faults of Euclid were then grouped under the following heads:—**Phraseology**, method, matter and particular doctrines. The phraseology was condemned as being verbose, especially in the definitions, as well as stiff and formal; the nomenclature was antiquated and infelicitous; and Euclid was condemned for his want of generalization in the use of terms. His method was described as being impaired by the undue limitation of the number of his first principles, by the rejection of hypothetical constructions and the refusal to examine the properties of a figure before the construction is actually effected; by the neglect of the method of superposition, of which he might, with advantage, have made more use; by there being no explanation given why any particular course is adopted; and by the absence of very proper classification. Such fundamental defects, it was argued, could not be remedied by an annotated Euclid, or Euclid with a commentary. They strike at the very root of the matter, and necessitate treatment of the subject for beginners, on different principles and by different methods. In matter, Euclid was described as erring in his first principles, both on the side of excess and defect. Some of his definitions were mere statements; others were not definitions at all, as they did not explain the terms; others were mere verbal definitions; while others were properly theorems. Defects were pointed out in both postulates and axioms, while it was shown that the elements contain a considerable number of superfluous propositions, while they omit some which they should have included. In many cases the proofs might be simplified by adopting a different mode of demonstration. Under the head of particular doctrines the deficiency in Euclid's treatment of angles, parallels and proportion was dwelt upon. The definition of an angle should have been made to include angles equal to and greater than two right angles. The many attempts made to improve upon Euclid's treatment of parallels show that it has always appeared unsatisfactory to mathematicians. His definition of proportion was characterized as unnatural and a violation of common sense. In opposition to those who argue in favour of retaining Euclid as a text-book, it was urged that the pressure of educational work was too great to admit of teaching errors merely for the purpose of correcting them, and that in many cases the errors would remain fixed in the learner's mind, while the corrections would be forgotten. The practical objections to Euclid were then dwelt upon. Prominent amongst them was the discouragement entailed on beginners by the use of so defective a text-book. It was further urged that boys might learn Euclid without becoming proficient in geometry, as they often failed in the application of principles, their failure being due largely to his defective method, while the mastery of his text takes up so much of the pupil's time, that very little is left for acquiring a knowledge of practical geometry. Against the argument that Euclid supplies an admirable mental discipline, it was urged that the acquisition of knowledge and mental training are rather separable in idea than in fact, while geometry, taught by a proper method, might be made equally available as a means of disciplining the intellect, while the knowledge of the science was far more readily and accurately acquired. Moreover, it was questionable whether the study of Euclid was such an excellent training for the reason, inasmuch as the type was imperfect. While his argument was ever faultless, inflexible, incapable of reply, it was conveyed with unnecessary prolixity and verbosity, and with a stiffness of form which is never found in scientific reasoning or in common life. An able and interesting paper was wound up by a caveat against applying to geometrical science the exceptions taken to Euclid's method of treating it, and by attention being called to the fact that

the arguments against him were cumulative, and were, when taken together, more than sufficient to sink any book not sustained by prejudice engendered by long usage and undisturbed possession of the educational field. A cordial vote of thanks was given to Mr. Kirkland for his paper. Mr. Sullivan pointed out that though efforts had been made to improve Euclid, he had been returned to again in many quarters. Dr. Kelly, Inspector, said that the career of two thousand years in every country was a strong testimonial in its favour. It was not quite correct to say that the book was quite disused in France. He thought there was no process of reasoning so satisfactory to the student as that of Euclid. Mr. Inspector Glashaan also spoke in favour of Euclid's style of definition and argument. Mr. Hunter remarked that he was unable to see that any book intended to supersede Euclid was at all calculated to do better what the old book did so well.

"COMMON SENSE OF LOGIC."—Dr. McCaul spoke of the honour he felt in being asked to address the Association, and of the difficulty he at the moment felt in choosing a subject on which he should address them, or whether it should be an address or lecture. Having been a teacher forty years, it occurred to his mind whether he should not address the Association on the duties and responsibilities of teachers; but from this he thought no good would arise, for he had no experience in the department the teachers were most engaged in. The next subject which presented itself was one in which he felt a deep interest, that was archaeology, archaeological treatment of school teachers; but this might be more abstruse than useful, and whilst agreeable to himself might not be so to others; he therefore determined on a conversational lecture, for he believed it was the best form by which information can be gathered. The subject he had selected was "Common Sense of Logic." In treating with this subject he thought it was scarcely necessary to mention that there is a strong prejudice against the study of logic, in fact there were people who believed that a knowledge of logic was of no use in life; indeed, some persons went so far as to think that the mere fact of a man being a logician was a proof that he was something akin to a swindler. He trusted that he would be able to persuade them that there was a good deal of common sense in logic. For every nine persons who had what is commonly termed genius, he did not meet one who had common sense. The mastery of recondite theories was of little value, unless one was able to apply them. The invention of logic had been ascribed to the philosopher Leno. The great object the ancient philosopher had in view in cultivating it was to bring their disputes to a termination. These men were at the present day often spoken of with contempt, as being ignorant and shallow. This was a great mistake, as the ancient philosophers were men of great learning and research, and this was shown by what they accomplished in relation to religion, while labouring under the disadvantage of not having the light of Christianity. These men plunged boldly into the mine of uncertainty and drew forth sparks of shining life. They first inferred the immateriality of the soul from the fact that matter was incapable of reasoning, and from this they came to the conclusion that the soul was immortal. They then went a step further, and held that there must be a day of judgment. The lecturer then proceeded to say that the ancient philosophers in inventing logic did not intend to bring forward any new mode of reasoning. Logic is no new mode of reasoning. Logicians boldly say that a man cannot reason except in a certain way. Some men do it intuitively, and others from knowledge. The philosophers of antiquity believed that a man must speak of something; it was entirely a modern invention for a man to speak of nothing. The lecturer then proceeded to explain in a popular style the elements of logic, shewing the nature of syllogisms, premises, &c., &c. *En passant*, and illustrative of the subject, he gave a brief and humorous outline of the play of "Clouds," the production of the comic poet Aristophanes, and touched upon the school of sophists, who professed to teach men to convert the weaker argument into the stronger. In conclusion, he assured his hearers that they would find it worth their while to study the science. As a system of mental gymnastics there was nothing to compare with it. They must, however, take care not to expect a study of logic to give them knowledge. It was of great service for a man to possess a pair of scales, but if he wanted to weigh butter on them, he must first obtain the butter. A cordial vote of thanks to Dr. McCaul having passed, he said that he had great pleasure in being present at this meeting of teachers, for he had been a teacher more than forty years, and he might astonish them in stating, although forty years had elapsed, he would not select any other profession in the world than teaching.

SUPERANNUATED TEACHERS.—Mr. J. Campbell, chairman of the Public School Teachers' Committee on the Superannuation Fund, reported, That having examined the proposed amendments of the School Bill of 1873, with reference to the superannuation fund, the Committee were of opinion that the following changes in the Act

should be asked for:—1st. That every teacher who has been worn out in the profession, or who has taught 25 years, or who has arrived at the age of 55 years, be entitled to the pension, even though he may not have become infirm. 2nd. That any teacher retiring from the profession shall be entitled to receive back from the Chief Superintendent the whole of any sums paid in by him or her to the fund, through the P. S. Inspector or otherwise. 3rd. That the annual allowance to any superannuated or worn-out teacher shall not be less than six dollars for each year that such teacher has taught in a Public or High School in Ontario. Mr. Anderson contended that a teacher, on leaving the profession, should not be permitted to draw upon the Superannuation Fund to the full amount he has paid in to it. He held that teachers are placed on a better footing than Government officers, in regard to superannuation. Mr. William Johnston spoke forcibly against the principle of compelling the teachers to pay to the fund; granting that the end was laudable, but the means of obtaining it objectionable. On motion of Mr. McAllister, seconded by Mr. McCown, it was agreed "That, in the opinion of this section, the compulsory clauses of the School Act of 1871, which relate to the Superannuation Fund, should be repealed as soon as practicable." The 1st and 3rd clauses of the report were adopted, and the second clause struck out. On motion of Mr. Mackintosh, seconded by Mr. Ferguson, a Committee consisting of Messrs. Lewis, McQueen, and the mover was appointed to wait upon the Attorney-General to lay before him the expression of the Public School teachers.

MODEL SCHOOLS AND TEACHERS.—Mr. Macintosh presented the report of the Committee on model schools and teachers, which was as follows:—1. That as teaching is a profession, its members require professional training, and that no teacher should receive a certificate who has not received such training. 2. That in order to provide such training, some existing public school in each electoral division of the county, elected by the Council of Public Instruction, on the recommendation of the Public School Inspector, be constituted a Model School, and that all candidates for third class certificates who have not previously taught a public school for three years, be required to receive a training as pupil teacher in some such Model School for that period. 3. That the head-masters of said Model Schools be first-class certificated teachers of at least five years' standing. 4. That Teachers' Institutes be established in each county. 5. That each County Teachers' Association having regular meetings at least quarterly, be constituted a Teachers' Institute. 6. That an Inspector of Teachers' Institutes be appointed, whose duty it shall be to visit each Institute at least annually, and conduct its proceedings during the whole of one of its sessions. The report was adopted.

INSPECTORS' ASSOCIATION.—At a meeting of the Inspectors a base of union between the Inspectors' Association and Inspectors' branch of Teachers' Association was unanimously adopted, and a union thereupon effected. Officers, J. J. Tilley, chairman; W. R. Bigg, secretary; executive committee, Dr. Kelly, W. Carlyle, H. L. Slack, E. B. Harrison, J. J. Tilley.

MODERN CULTURE IN SCHOOLS.—Mr. J. Howard Hunter, M.A., spoke of the progress of school culture, referring to that which existed in Henry VIII.'s time, and to the present system. The turning of the tide in modern culture is, in Ontario, deeply marked by the School Act of 1871, and the University Act of 1873. He remarked that nothing of a practical character has yet been accomplished by the Senate of the University; he wished there was even a hope of the revision of the curriculum being at once proceeded with. What Kant said in the 18th century of German schools of learning is equally applicable to the Toronto University; they needed not show reform but quick revolution. As the new Act is intended to involve all needful academical reforms, it would evidently exert a most wholesome effect upon the University Senate if its proceedings were opened to the public. The friends of educational progress, who appear to be overmatched by the strategy and volubility of the reactionists, would find themselves strengthened by the sympathies of the graduates and the general public. Representation, when unaccompanied by an accurate report of what our representatives say and do, certainly appears a merry jest. Important changes in the University curriculum were required of the institution, to command the hearty sympathy of educationists. The matriculation examinations ought to represent, not the state of human knowledge in the days of Queen Elizabeth, but the enlarged culture of the days of Victoria; it ought to represent a good general basis of knowledge, and should include some acquaintance with the science of observation and experiment. At present the examinations are overweighted with classics. He did not refer to the area of classical text required, but to the further exaction of pedantic rubbish, quite foreign to the general spirit of the authors, and which tends to withdraw the student's mind from the liberal banquet before him. In speaking of teachers, Mr. Hunter said, it will soon

be difficult to conceive why the teacher is so designated, for in his case "the whole duty of man" is held to consist in the filling up of blank class-books or blank returns, and in the unflinching use of the authorised text-books. He considered there was a repressive system of education now being attempted to be carried out in Ontario, and it is utterly out of tune with the voice of modern times. The Educational Department were conscious of the fact, and were seeking to enforce its measures by exacting from the School Inspectors, not only the public reports intended for the eye of Parliament, but secret reports also, which meet the eye of only the chief superintendent or of his deputy. It was deplorable that in Ontario they should at this stage of progress have to discuss questions of the character spoken of; that their contest should be not with ignorance, but with the official representatives of education.

A cordial vote of thanks was passed to Mr. Hunter for the paper read.

EXPLANATION.—Mr. McGann spoke of some remarks having been made respecting his conduct as Treasurer of the Association, and of his having been called on to settle up an item which was omitted from the audit. It was explained that Mr. McGann's conduct as Treasurer of the Association was irreproachable, and that he had overpaid his account by \$8. Any loose manner in the management of the accounts during Mr. McGann's treasurership only took place during his absence in the old country.

THE MORAL ELEMENT IN COMMON SCHOOL EDUCATION.—Prof. Goldwin Smith, who, on rising, was given a most enthusiastic reception, then delivered the following address:—

"Among the various topics connected with Education, which might be brought before a meeting of teachers, I have chosen as one deserving of special attention, 'The Moral Element in Common School Education.' I mean the effect of the system upon character as distinguished by its effect upon intellect.

The circumstances of our age are such that, if our education is common, it cannot be religious. For my part, I think this a misfortune. Not that I think much is to be gained by teaching children, or anybody else for that matter, mere dogmas and formularies; but I think it a misfortune that we should not be able to introduce into the common education of the young whatever is highest and deepest in our motives to right conduct, and to the formation of a virtuous character. But so it is. This is a period of religious division and decomposition; of splitting up into sects, or of total eclipse of faith. The only great mass which remains united is manifestly held together by tradition and authority; whenever it is exposed to the influence of free knowledge or free discussion, it gives way like the rest. So universally is this the case that some begin to say that the end of the theological period of history is come; that religion is about to give way finally to science as the guide of life; and that spiritual motives will be finally superseded by motives having no relation to anything but the good or ill of this present world. For my own part, I am not of that opinion. I believe that the 'Sun of Righteousness,' though now hidden from many by a cloud raised mainly by Byzantine and mediæval exhalation, will shine bright again upon the eye of the soul—that the great vital truths of religion will become clear again, clearer than they have ever been before, and that we shall see more distinctly than ever the reality and the paramount importance of the spiritual life. But in the meantime we are divided and uncertain, and a religious education common to all is out of the question. Separate schools we might of course have for every sect or shade of opinion. But to say nothing of the ruinous waste of resources, the separate schools are morally, I am persuaded, no better than the rest. The dogma which these schools teach is morally ineffective. It is before us and not behind us that the land of promise lies. Clouds may surround the dawn of the day of science; but the moonlight of the Middle Ages, however romantic, will guide our feet no more. I have seen that way tried at Oxford by intellects as powerful and natures as high as are ever likely to surrender themselves to imagination and tradition; and failure, signal and decisive, was the result. Nor do I attach much value to any slight or furtive recognition of religion in the way of a deodorized prayer or Scripture reading. It seems to me better to say at once the school is secular, and does not presume to meddle with things to which it cannot do justice. The supreme value of all that which concerns our spiritual life we may teach; and we inculcate the habits which lead to such truth—openness of mind, candour, sincerity, respect for honest inquiry and for its results. We may make the child feel that life is a serious thing. Religion itself we must let alone, and leave to home and to the pastor. But there may still be in our education a valuable moral element, both in the way of teaching and of influence; and it is useful to review this element, to see whether we are making the most of it, and whether it is well adapted to our circumstances and calculated to check the special evils of the particular state of society in which we live.

First of all, however, a word must be said upon the good old text about the silk purse and the sow's ear. Before you undertake to estimate the work or to blame the shortcomings of any set of teachers, or of any educational system, you must ask with what sort of pupils the teacher or the system has to deal. To use a homely metaphor, if, when we have done our best, the potato is not peeled very clean, the fault may lie wholly in the peeler, but it may lie partly in the potato. When fond parents find fault with the goods manufactured by the teacher, they should consider, if it is possible for paternal and maternal love to consider, what sort of raw material they sent him. If a child were sent with a crooked spine, teachers would hardly be expected to set it straight. And when a child is sent with a temper spoiled, and a brain clouded through the injury done to its stomach by cramming it, or allowing it to cram itself with all kinds of trash, can it be expected that these effects of physical maltreatment will be cancelled, that the soured temper will be restored to sweetness, or the clouded brain cleared by any skill in teaching, or by any system of education you can desire? If such a child learns anything, and is trained to any sort of decency in behaviour, is it not as much as the parent can expect? The Governor-General was reported the other day to have made some remarks on the fractiousness and rudeness of the American children you meet on the cars and steamboats. The travelling American is not the best specimen; and when you come to live in American homes, you will find many of them as well governed as any you see elsewhere. Still, the general unruliness of children in the States is a fact which cannot be denied; and as the social conditions are pretty much the same, I suppose we are not safe against the contagion here. It is the excess of the democratic spirit in their raw democracies which extends to the household, and prevents the due exercise of authority there. Added to this is the premature mannishness produced among the boys in these growing commercial countries by the prospect of early independence. Early independence is a great thing in itself, but the effects on domestic relations and private character are not always pleasant. I have seen a whole party of schoolboys, mere children, waiting for a street car, go into a neighbouring tavern to get their nips, and you find cigars in the mouths of mannikins not much bigger than a monkey. The nippers and smokers, when at home, are probably not remarkable for paying respect to grey hairs. Here, again, it is only to a very limited extent that the school can be expected to contend against the general bent and bias of society. We must look mainly to other influences, which, as things settle down in these new communities, will probably come into play. It is to be hoped, among other things, that some day Government itself, the centre and pattern of all authority, will become again an object of reverence and a source of reverential feeling, though without ceasing to be based upon the national will. While it is a partisan fight, and a domination of such persons as nature selects by that mode of struggle for political existence, the evil influence will be felt in all our relations and in every home. The direct moral influence of learning to read and write has perhaps been overstated. Statistics are produced to show that the majority of criminals are ignorant. But is their crime the consequence of their ignorance, or are both the consequences of their having been brought up in the gutter? Besides, when I was a member of a Popular Education Commission in England, it came under my notice that these statistics were vitiated by another unsuspected circumstance—a strange tendency on the part of criminals to conceal the fact of their having received education. Perhaps they thought it might be deemed an aggravation of their case; at all events, the chaplain of the gaol found that prisoners set down as unable to read or write could really do both. That ability to read and write may be used for very objectionable purposes we have, unfortunately, proof enough. Education gives a man larger powers, which may be used for good or evil. It opens new avenues to his mind through which good or evil influences may find their way. There is happily, however, no doubt on which side practically the balance lies. A comparison of the educated with the uneducated nations demonstrates that in the gross education leads to virtue. Perhaps there is no nation in which the distinction between intelligence and morality is more marked than among our neighbours to the South; yet no one can have lived among the Americans without being convinced that their intelligence is on the whole a moral force. Most direct, and probably most effective, among the moral elements of the system is the discipline of the school. It is of especial importance in a country like ours, where, as I have said, authority and respect for authority are impaired by the excess of the democratic spirit, but yet unchecked by political experience, and still in a state of violent motion against the well-remembered evils of despotism and privilege in the old world. It is needless to tell you, who know so well, in what a good discipline consists. Reasonable laws, such as the child, as its intelligence opens, may clearly see to be for its good, inflexibly enforced, or

relaxed only for reasons as strong as those for which they were made. Nothing needless and vexatious either in the way of rules or interference. Gentle admonition when an offence is not wilful—reproof when necessary, but measured and appropriate to the offence. In the last resort punishment, not inflicted in anger, but so inflicted that the culprit shall fear to offend again. Such are the well-known and commonplace elements of a good discipline in schools or elsewhere. It is well to remember that reproof as well as punishment may be made ineffective, and worse than ineffective—it may be made the means of deadening a child's moral sensibility by indiscriminate use. If we would have a child mind what we say, we must let him see that we mind what we say ourselves. In children obedience itself is a virtue, and a habit which it is necessary to cultivate; yet so far as their understanding goes, it is well to let them know the reasons for the laws they obey, especially in a country where they are law-makers in posse themselves. They will thus see that punishment in case of breach of the law is necessary, and brought on them by their own act. Perhaps an hour or two in the course of each school year might be well employed in explaining to the school the reasons of the discipline they are under. A system of school discipline based on these obvious principles, and administered with steadiness, may produce a good and lasting effect on the character of our young democracy.

It is now an axiom that as much of kindness and even of affectionateness should be infused into the system as possible, and that the child should be allowed to feel as little difference as possible between school and home. Perhaps in many cases already, if the child feels a difference, it is not to the advantage of home. But still school, compared with home, must be a place of discipline; it cannot be all sweetness and picnics. Men in after life do not work for love of labour, but under the pressure of need; and I am afraid children will never learn their lessons entirely from love of learning. The idle will need the spur, and the unruly will need the rein. It will be well if spur and rein can be so applied as to improve the character instead of injuring it, as they did in the old flogging times.

Of the prize system, so much discussed, this perhaps may be said that, as the world now goes, competition is the law of after life, and competition at school may at least be fair, which that of after life is often far from being. But, on the other hand, there is truth in the objections urged in a poetic form by Cowper against the use of emulation as a stimulus.

'Boys once on fire with that contentious zeal
Feel all the rage that female rivals feel;
The prize of beauty in a woman's eyes
Nor brighter loom in them the scholar's prize,
The spirit of that competition burns
With all varieties of ills by turns;
Each vainly magnifies his own success,
Resents his fellow's, wishes it were less,
Exults in his miscarriage if he fail,
Deems his reward too great if he prevail,
And labours to surpass him day and night,
Less for improvement than to tickle spite,
The spur is powerful, and I grant its force;
It pricks the genius forward in its course,
Allows short time for play, and none for sloth,
And felt alike by each, advances both;
But judge when so much evil intervenes,
The end, though plausible, not worth the means.'

On the whole, I would submit that the principle of rewards, given to all who come up to a certain standard, is better than that of prizes given by competition, and if the stimulus afforded by it is not equally powerful, I believe it is powerful enough.

I put the moral influence of the system before that of the character of the individual teacher, because I believe that in a general way more is to be hoped from system in all its departments than from the individual. The ideal teacher—the teacher who is painted in all essays on education, and whom school trustees and parents expect to get—may be defined as an archangel at five hundred dollars a year. But even the more attainable excellence, the excellence of the man who has a special genius for education, is as rare as any other kind of excellence. Among all the eminent and highly paid teachers I have known, I think I could count on the fingers of one hand those who had a special genius for their calling. There is no use in laying on ourselves, or on others, burdens of expectation and responsibility too heavy to be borne. We only discourage ourselves from doing that which is really within our power. The most that can be expected of an ordinary teacher is that a good system being given, he or she shall faithfully carry it into effect. For this it will suffice to have, in addition to common sense, diligence, punctuality, ordinary good temper, and ordinary self-control, without the magnetism and electricity which we are sometimes told it is almost criminal in a school teacher to be without, though magnet-

ism and electricity are not often found in parents or trustees. With the qualities I have named and a tolerable system, a teacher may be sure that he is improving the character as well as informing the minds of children, and doing a good work in both ways for the commonwealth, though he may not be a village Arnold. The very numbers would render it impossible for a public school teacher to be a moral missionary to each child.

The moral parts of the teaching are moral science, social science and history. Physical science has a moral aspect, as it impresses on us the necessity and duty of conformity to the physical laws of our being; but this idea, though its influence in the adult world is daily growing, hardly yet penetrates the mind of a child.

The modicum of moral science communicable to children is not perhaps yet very potent. A child knows what it is to be good; the great thing is to make him desire to be good. And this is to be done, not so much by analysing goodness for him as by presenting to him its image in a way to make it the object of his affection. This may be done either by history and biography or by fiction.

It is time that our school histories should be written on some definite principle, and with some definite object; for at present they are written for the most part without either. Yet their character is not without importance. I doubt whether a more active, or a more virulent poison was ever infused into the veins of a nation than that which is infused into the veins of the American nation by such school histories as are used in the United States. What can be expected if people are fed through their childhood on such stimulants of national vanity and malignity? But our common school histories, though not positively noxious like the American, are generally poor stuff. If they are not poison they are saw-dust—dry epitomes with mechanical duties devoid alike of power and of nourishment. It would be almost better that children, instead of being thus repelled from the subject, should pick up their notions of history as they can. There may be said to be two elements in history, the philosophical and ethical. The philosophy of history is hardly yet in a condition to be presented to the young, but of the ethical part more might be made by simple and vivid descriptions of great characters and great events, such as would fix them in the imaginations and touch the heart. History thus taught would be no ineffective school of public virtue, especially of the love of our country, which is specially needed to correct the somewhat selfish and self-isolating tendencies of our race, and which we may cultivate in its good and moral side without running into the extravagance of Americans. Examples of private virtue will be furnished by biography, and I believe that well-written lives such as that model of biography 'Southey's Life of Nelson,' make a real and lasting impression on the minds of the young. I am almost afraid to speak of fiction. Charles Kingsley said the other day that he would as soon think of eating a dead dog as of reading a sensation novel. The amount of dead dogs people are daily eating is beginning to tell, depend upon it, on the mental habits of the eaters. But good tales are, and always have been, powerful instruments of moral education, both for children and for adults. I mean by a good tale not a *goody* tale, rewarding precocious virtue with plum-pudding, but those which present moral beauty in a winning way, and enlist the child's heart on the side of right. Few literary men have rendered greater service to this generation than Hans Andersen. I cannot help thinking that if instead of the dry reading to which children are condemned in reading books, it were possible to introduce a few good short tales, something might be done towards giving a right direction to their sympathies and tastes.

There is reason to hope that the day is approaching when Social and Economical Science will be made available for educational purposes in a way that will have a good effect on national character. I do not mean dry political economy, or the things that are discussed by Social Science Associations. I mean the great laws of our social and economical being. The one great lesson now taught our pupils from childhood upwards is to rise in life. It is not only the prize system that fosters this notion in our young citizens; it is instilled into them at every pore. To clamber over the heads of our fellows is the only way to respectability and happiness; to exist contented and do your duty in the station of life to which you are called is degradation and misery. Thus education, especially in the United States, becomes a preaching of universal discontent. Hardly a farmer's child there is willing to remain quietly on the farm. It would be injurious to the commonwealth as well as to the individual to check honest ambition, whether commercial or of any other kind. But the number of those who can really rise must be small. The great majority must, after all, look for their happiness in the sphere in which they are born. They must find their dignity and their comfort in their position as members of humanity, and as fellow-workers in a work the lowest part of which is as necessary as the highest, or rather in which there is no lowest or highest, but all the

parts and all the workers are really equal, and the wages of all who do their appointed work will be the same in the end. This is the lesson which social science and political economy, rightly studied, are calculated to teach. They show our relations to each other, our dependence on each other, and the equality of all, except idlers, in the social and industrial frame. A calming hand might thus be laid upon the feverish ambition and cupidity which, amidst the exciting influences of a new commercial country, threaten alike the virtue and the happiness of society.

I need not dwell upon the effects of drill and of regular and rhythmic movements which have a certain influence on character, or on those of decorations, pictures, and so forth, which give effect to character through the taste. But I would say one earnest word in favour of music, all the more as it was unhappily not taught in English boys' schools when I was a boy. Surely it is an influence greatly needed by human nature everywhere, and above all in these restless, eager, hard gold-digging communities in the new world. That the love of music need not interfere with practical energy, the land of Bismarck and Von Moltke is a proof. It conduces to domesticity, and it may supply one antidote to that most fatal of all the plagues that have ever ravaged humanity—the growing passion for strong drink.

There is no use in pitching anything too high. The first duty of a school must be to teach the elementary subjects which it purposes to teach, and by its results of that kind the school must be mainly judged. But the moral effects are not to be left out of sight. We must remember, and in times like these it behoves us especially to remember, that we are training not only the trader or the mechanic, but the Canadian and the man."

Mr. J. Hunter moved a vote of thanks to Professor Smith for the admirable and practical lesson he had just given to them; seconded by Mr. Harrison; carried amid applause.

The Chairman announced that Professor Smith had consented to become President of the Ontario Teachers' Association. (Applause.) Professor Smith thanked them for the honour done him. He would be most happy to do anything he could to help the Association. (Applause.)

TOWNSHIP BOARDS v. SCHOOL SECTION BOARDS.—Mr. Jas. Turnbull, B.A., read a paper on the above subject. He remarked that it would be unjust to undervalue the services which the present School Section Boards have rendered to the Province in the cause of education. The following is a recapitulation of the supposed disadvantages and advantages in the Township Board system:—The change has not been demanded by the mass of the people. The difficulty in making a proper division of school property. The lack of a suitable distribution of the trustees, and consequent neglect and favouritism. Poor and small sections assisted by the more wealthy part of the township. Let what is considered by some well enough alone. A desire to retain power, and a fear that the new Board would not take sufficient interest in all the schools. Advantages:—Economy in time and money and in the number of school officers. The convenience to parents by the abolishing of section boundaries. The saving of expenditure in having a sufficient number of school-houses, and no more, in each township, thus effecting a saving in the erection of buildings, keeping them in repair, with their grounds, &c., and economy in the number of teachers employed. The permanency of teachers in their position, tending to increased efficiency in the schools and a saving of time on the part of the pupils. An impartial tribunal, from which the teacher will never fail to secure justice, which he does not always receive at the hands of the present Boards. Payment of salary quarterly. Teachers' residences. Increased remuneration and consequent adherence to the profession, if not for life at least for a greater length of time than is usual on the part of many at present. The example of many of the States of the Union, which have adopted the system with excellent results, there being no tendency to return to the old system. Increased zeal on the part of inspectors, and more efficient supervision in conjunction with the Board in each township. A superior school in each township, to which the older pupils could be promoted, introducing the principle of township competitive examinations, and serving, to some degree, as a sort of Normal and Model School for the whole township. A vote of thanks was unanimously passed to Mr. Turnbull for the able paper read.

A discussion ensued. The subject was considered an important one. There were many practical objections to the present Board system, but there were a few obstacles in the way of changing it. Mr. Inspector Carlyle, of Oxford, said if there was a change it would be the emancipation of trustees and teachers. The schools were at the mercy of local prejudice, the teachers were under the thumb of the children, backed up by parents, and who in their turn make the trustees back them up. Mr. Inspector Grote said he felt very earnest on this question. If there was a change in the present system the people would have more control over the schools than

they now had. There were not only local prejudice but local differences in having a change. He spoke of two trustees employing a teacher two years in a school against the wishes of nine-tenths of the people in the place. Until they could show the people the benefit of a change, they would not get rid of the present system, which he contended was working against the efficiency of schools, and there was no question but the money voted for schools was thrown away under the present system. He advocated a central Board. Mr. Inspector Smith spoke of the arbitrariness of trustees, and referred to the question of equalisation of the assessment in townships for school purposes, mentioning that in one township the people were paying nine mills towards the school, whereas in adjoining townships the people only paid one and a half mills, and had the same school accommodation. Several other speakers condemned the present system, and considered that there should be an immediate change.

EXPLANATION.—Mr. McMurphy regretted very much his absence from the meeting yesterday afternoon when certain references were made, more especially with respect to the Senate of the University to which the High School Masters had seen fit to elect him. He now took this public opportunity of thanking them for their great kindness in electing him to that learned body, and he would now repeat what he mentioned in his circular sent out, namely, that he would try to faithfully discharge his duties as the representative of High School Masters of the High Schools of Ontario. (Applause.)

RURAL SCHOOLS.—Mr. Ross, of Strathroy, Ontario, stated it was the intention of himself and Mr. McColl to offer a prize consisting of books of the value of \$20, for the best prize essay on "The Necessity of Rural Schools." (Hear.)

TREASURER'S REPORT.—The treasurer, Mr. McAllister, presented the following report for the year 1872-73:—Receipts deposited in Savings Banks, \$58 98; members' fees, \$60 00; copies of Annual Report sold, \$22 90; interest on deposit, \$20 00; Reports sold by treasurer, \$5 00; total, \$150 08. Expenditure—Postage, Secretary's account, &c., \$8 78; printing, \$49 00; expenses of delegates to Protestant Teachers' Association at Quebec, \$24 00; gas account, care-taker of W. S. buildings, \$7 75; balance in hand on deposit, \$60 55; total \$150 08.

OFFICERS OF THE ASSOCIATION.—The following officers were chosen for the ensuing year:—President, Professor Goldwin Smith; Vice-Presidents, J. B. Dixon, J. J. Tilley, W. Macintosh, W. W. Tamblin, J. Kilgour, Robert Quinn; Treasurer, S. McAllister; Secretary, A. McMurphy; Corresponding Secretary, J. Kirkland.

COUNCIL OF PUBLIC INSTRUCTION.—There was a long discussion with respect to the manner of selecting a representative to the Council of Public School Instruction, which will be in the presence of the Association on the passing of the Bill to amend the Public School Act, introduced by Mr. Mowat. Some contended that the power of selecting a representative should be left in the hands of the Executive Committee, whilst others maintained the whole Public School section should convene for that purpose. Ultimately it was decided by a resolution that the Chairman of the Association should be empowered to call a meeting to take into consideration the nomination of a candidate for the representation of the Public School Teachers' Section of the Association. The following are the Representative Council:—W. Watson, Weston, President; H. Dickinson, Brantford, Secretary; R. McQueen, Kirkwall; J. Johnson, Cobourg; R. Macintosh, Campbellford; W. L. Brown, Hyde Park, Ont.; J. Dearness, Lucan.

ATTENDANCE AT SCHOOL.—Mr. Inspector Fotheringham moved, and Mr. McCallum seconded the following resolution:—"That the evils of irregular attendance and non-attendance at our Public Schools throughout the Province is of a most serious character, and demands immediate and stringent legislation for its removal."—Carried.

The following is a summary of the paper prepared by Mr. Fotheringham on the important question of school attendance. The paper was entitled: "We in Ontario have flattered ourselves for years that we possess one of the best, if not the best, school system in the world; but when Dr. Ryerson speaks of the 38,535 who entered no school in 1871, as 'an ominous and humiliating item' in our school statistics, he neither uses too strong language, nor does he exaggerate the figures." To show the probable return from our school expenditure, I have made several comparative estimates of work done in cities, towns, and villages on the one hand, and in counties on the other, and do not find the one much more satisfactory than the other; but as it may be urged that private schools and academies in cities, &c., may make the percentage of attendance or non-attendance on instruction which I may bring forward less reliable, I shall confine myself to statistics of counties for the present; and, I fear, we shall find items "ominous and humiliating" beyond what most have dreamt of. The school population of Ontario (from 5 to 16) in the counties in 1871 was 392,569; we may,

as ascertained by facts and calculations, add one-fourth of this number to itself to get the population from 5 to 21. This will give us 490,700 in the counties. The number, of all ages, that entered school in 1871 was 358,895. This leaves 131,804, or 27 per cent., of the school population that did not enter any public school at all!! Again, nearly 40,000 attended less than 20 days in the year; and over 73,000 attended under 50 days. All the education these 113,000 children could get in 20 or even 50 days amounts to nothing. We may therefore add over 22 per cent. more to the number deriving no benefit from the educational opportunities provided by the Public Schools. Altogether, therefore, nearly 50 per cent. of our young people are not being educated at the Public Schools. But in addition, over 95,000 in the counties attended under 100 days, and 76,000 attended under 150 days. We may therefore set down 171,000, or 34 per cent. more, as being only imperfectly educated, if regular attendance can be the test. 53,639 attended from 150 to 200 days, and 18,608 attended over 200 days. If these represent regular attenders and successful students, we have nearly 15 per cent. of the school population taking full advantage of the provision needful for popular instruction. To summarize, we have over 244,000 young people reaping little or no advantage from our Public Schools; we have over 171,000 taking only partial advantage; whilst only 72,247 are attending full or nearly full time, 50 per cent. getting little or no education; over 34 per cent. being imperfectly instructed; and 15 per cent. or 72,000 being educated at an annual cost of \$1,383,340. What have we to say for "this Canada of ours" now? "Whither are we drifting?" Have we not been playing "school," like children, only on a gigantic scale? Have we not been working blindfold? Self-blinded? We have borrowed and purchased on all hands. It seems a matter of fact that our free schools have brought with them more irregularity and indifference than were apparent under the rate-bill system. That does not imply that free schools are a failure. It only proves that the necessary concomitants were not provided when the free school system was introduced. Now, we think the figures given above answer in the affirmative the question: Our educational system has failed, and terribly failed. Take, if you will, any ten young men or women, at random, who have taken a regular and ordinary course at a Public School, and how many of them will you find intelligent, fluent and correct in reading, speaking, and writing? Not more than one. Hardly that. Not only do children attend irregularly, but the instruction given has been mostly unattractive, vague, inaccurate and valueless as a training or foundation. The causes of this "ominous and humiliating" state of matters I conceive to be, the indifference of parents, the frequent change of teachers, the unattractive and uncomfortable condition of school houses, the employment of cheap teachers, and great distances from schools, as well as lack of text-books, maps, and apparatus. To remedy the great evil, irregular attendance, our Legislature should enact a more stringent law of compulsory attendance, with provision for the appointment of a truant officer in every municipality, whose duty it would be to punish all parents who shall not send all children from seven to ten years old for six months in the year, and all from ten to fifteen for ten months. Houses should be made as comfortable and cheerful as homes. Filth, disorder, rudeness, should not be associated with the idea of the day-home of the children. They should have the means of social and intellectual enjoyment provided as religiously as the birch has been in the past. It is a shame, a disgrace, the way in which children are huddled, tortured and smothered in most of our schools even yet—dirt on the floors, dirt on the doors and walls, dust on the desks, dust on the sills, on the maps, the windows—outhouses exposed often, and often unfit to use, play-ground unsuitable, often muddy, uneven, exposed—no shade trees, no play-shed—nothing but dreary, tiresome days, theirs at school. And why should not the first question be, "How shall we secure a good teacher for the longest time?" A good teacher is worth his weight every year in silver, if not in gold. A good salary and a good home would make it easy, as a general thing, to get and keep such a man. Education should not be a peradventure. A definite end—the thorough and universal education of the rising generation—with the necessary means, should be made sure, so far as these are at the disposal of the country. The number from counties, cities, towns and villages who entered all colleges, high schools, and private schools in 1871, was 16,000, or about three per cent. of the county population, so that if we suppose two-thirds of these to be county pupils, and two-thirds of those to attend regularly, we have still under seventeen per cent. likely to be thoroughly grounded in education. The conclusion, however startling and however unlooked for, must therefore be faced: We are expending all, or nearly all our energies on less than half of our population, and the rest are growing up in ignorance, and preparing a harvest of crime and shame for our country.

HIGH SCHOOL SECTION.—The following is a summary of the pro-

ceedings of the High School section, which consists of High School Masters:—A discussion arose out of a proposal to revise that clause of the amended constitution which relates to special meetings of sections of the Association; and after explanation of the machinery already provided had been given, the motion to amend was lost on a division. A resolution was offered recommending the omission of history as a test for admission of pupils to High Schools, but on an intimation having been received from the Education Office, that this amendment to the examination scheme had already been entertained, and probably approved of by the Central Examiners, the resolution was withdrawn. The High School regulations were considered and discussed. Mr. J. Hunter moved, and Mr. Wm. Houston seconded, "That it is the unanimous opinion of this section that the 22nd regulation, which relates to the re-examination of pupils for admission to High Schools and Collegiate Institutes, should be withdrawn." Carried. Mr. Tamblyn moved, seconded by Mr. J. B. Dixon, that they recommend that all Boards of Examiners for admission into the High Schools and Collegiate Institutes, accept the papers of the Council of Public Instruction for the examination in October next. It was moved in amendment by Mr. W. Oliver and seconded, that in the opinion of this section uniform papers be prepared as proposed in section 4 of the regulations; and further, that such a change be made in the law as to make this mode of procedure imperative, and that in the meantime H. S. section recommend the use of said papers in October next. Amendment was declared lost and resolution carried. Mr. D. C. Sullivan moved, Mr. J. Hunter seconded, that the High School examination papers ought to be transmitted to the Chairmen of the several High School Boards, as the proper presiding officers of the Boards of High School Examiners, and that all duties assigned in these regulations to the Inspectors as presiding officers should devolve on the Chairman of the High School Board. Carried. Mr. G. C. McGregor moved, and Mr. J. Hunter seconded, that clause 9 of the regulations, which refers to the consent of parents, should be omitted as unnecessary. Carried. Mr. McGregor moved, seconded by Mr. J. Scott, that section 13 be amended so as to read, "That four examinations for the admission of pupils into High Schools be held, and that the said examinations be held two weeks after the commencement of each term." Carried. Mr. T. Turnbull moved, and Mr. H. Strong seconded, "That section 19 of the regulations be amended as follows: The attendance of candidates at a High School or Collegiate Institute will not be credited in making the appointment to such school or institute, unless their admission be favourably reported on by the High School Inspectors, as being agreeable to the regulations; but the Head Master of the High School shall have the power to admit pupils provisionally until the first entrance examination thereafter." Carried.

HIGH SCHOOL BILL.—Mr. McGregor moved, seconded by Mr. J. Scott, "That the clause of the High School Bill which provides for the transfer of the powers of the High School Boards to municipal corporations, ought to be expunged." Carried.

MISCELLANEOUS.—The following were elected members of the High School Committee:—Messrs. Mills, Ballard, McMurchy, Hunter, and Turnbull. It was resolved, on the motion of Mr. Hunter, seconded by Mr. McGregor, "That in all intended changes in the regulations of the Council, at least six months' public notice be given of said changes." Mr. Scott moved, and Mr. Crozier seconded, "That in the opinion of this section the High School Bill should provide for each High School a district based on a minimum assessment capable of maintaining it in a state of efficiency."—Carried. Messrs. McMurchy, Hunter and Oliver were chosen to form a committee to present to the Council of Public Instruction and to Government the views of the Association, as expressed in the resolutions passed. The Association closed their session by singing "God save the Queen."—*Globe and Mail Reports.*

TOWNSHIP BOARDS.

At the recent meeting of the Middlesex Teachers' Association the following resolution was passed:—"Resolved, that from the unsatisfactory manner in which local Boards of School Trustees advance the cause of education, the teachers of the East Riding of Middlesex would recommend the formation of township boards in place of the local, the same having proved beneficial to the townships which have already adopted such boards."

RETURN TO SCHOOL.

A thoughtful writer, remarking upon the advance of the season and the return of children from the country, says:—"They have had their annual run of six weeks or two months, and are proportionately improved thereby. They come back reluctantly, with pleasant memories of berrying and wading in forest brooks, but yet with

pleasanter memories of home. What shall be done to make the coming year happier for them? Does it not strike those who are acquainted with our educational laws that they are altogether too inflexible? In the public schools, arithmetic is made the one standard of valuation; in our private schools it is languages or something of the sort. The minds of children are as varied as those of adults, and it might be worth while to give each one opportunity for its particular bent. The hint is thrown out for the benefit of whom it may concern. But it is certain that the laws of culture for children are made too uniform and inflexible."—*London Free Press*.

SUNSHINY TEACHERS.

There is a demand for sunshiny teachers. Be sure you always go to your class with a smile on your lips. By this we do not mean that artificial light which plays over the face for a while, and then gives place to a settled gloom or seriousness. But we mean the sweet, genuine reflection of the settled joy and peace of the heart. A smile of this description is the charm by which you secure your children.—*Sunday-School Times*.

I. Mathematical Department.

SOLUTION OF PROBLEMS PROPOSED BY THE MATHEMATICAL EDITOR.

1. In what time could \$25 amount to the same, if placed at 6 per cent. simple, and 3 per cent. compound interest?

By a few trials, the time is found to be between 43 and 44 years; then by the rule of false position, the answer will be $43\frac{1}{2}$, sufficiently correct.

2. $\sqrt{x^3-3} \cdot \sqrt{x^2}=4.962x$; Put $b=4.962$; then we have $x^{\frac{3}{2}}-x^{\frac{3}{2}}=bx$. $x^{\frac{3}{2}}-x^{\frac{3}{2}}=bx$; assume $a^6=x$; then $x^{\frac{3}{2}}=a^9$; and $x^{\frac{3}{2}}=a^4 \cdot a^9-a^4=ba^4$; and $a^6-1=ba^4$. $a^6-ba^4=1$. $a=17.4256$, and $x=27.998$, the answer.

3. The time, rate, principal, and gain at compound interest, are equal; required the time.

Let x =each: then $PRt=S$ per question.

$$p=x, r=\frac{x}{100}, R=1+\frac{x}{100}, t=x, S=2x$$

$$\therefore x \times \left(1 + \frac{x}{100}\right)^x = 2x; \text{ divide by } x; \left(1 + \frac{x}{100}\right)^x = 2$$

By the nature of logs. we have $x \times \left(1 + \frac{x}{100}\right) \times M = 3010300$

$$x \times \frac{x}{100} - \frac{x^2}{20000} + \frac{x^3}{3000000} \text{ \&c.} = \frac{30103}{M}$$

$$\frac{x^2}{100} - \frac{x^3}{20000} + \frac{x^4}{3000000} \text{ \&c.} = 693147$$

By reversion $x=8.49824$, the answer.

4. $x^3+y^3=z^3$: find x , y and z .

It is evident that z^3 must be equal to the sum of two cubes. Then the question is, to divide the sum of two given cubes into two other cubes.

Let $z^3=m^3+n^3$, and x^3+y^3 =the cubes sought.

Put $x=m+v$, and $y=n-\frac{m^2}{n^2}v$. Then we have

$$x^3=m^3+3m^2v+2mv^2+v^3.$$

$$y^3=n^3-3n^2v+3\frac{m^4}{n^3}v^2-\frac{m^6}{n^6}v^3. \text{ By addition.}$$

$$x^3+y^3=m^3+n^3+\frac{3m^4}{n^3}v^2+3mv^2-\frac{m^6}{n^6}v^3+v^3=m^3+n^3$$

$$\text{Hence } 3mv^2+\frac{3m^4}{n^3}v^2=\frac{m^6}{n^6}v^3-v^3$$

Multiply each side by $\frac{n^6}{v^2}$ and we have

$$3mn^6+3m^4n=m^6v-n^6v;$$

$$\therefore V=\frac{3mn^6+3m^4n}{m^6-n^6}=\frac{3mn}{1} \times \frac{n^3+m^3}{m^6-n^6}=\frac{3mn^3}{m^3-n^3}.$$

$$\text{Then } x=m+\frac{3mn^3}{m^3-n^3}; \text{ and } y=n-\frac{m^3}{n^3} \times \frac{3mn^3}{m^3-n^3}$$

$$\therefore Z^3=\left(m+\frac{3mn^3}{m^3-n^3}\right)^3+\left(n-\frac{m^3}{n^3} \times \frac{3mn^3}{m^3-n^3}\right)^3=x^3+y^3$$

5. A bar of wrought iron 150 feet long, and $\frac{1}{4}$ inch square in section, lengthens .289 inch under a certain strain; what must be the additional strain necessary to produce rupture?
 $l=150$: strain 2 tons or 2240 lbs. gives .289

$$l:L::\frac{2240}{\frac{1}{16}}:29000000, \text{ or mod. of elasticity.}$$

$$\therefore 290l=84, \text{ and } l=.289 \text{ inch.}$$

The strain sufficient to produce rupture is $\frac{1}{16} \times 67200$, tenacity=2688; $\therefore 2688-2240=448$ lbs., the additional strain required.

II. Biographical Sketches.

1. J. R. ARMSTRONG, ESQ.

Mr. James Rodgers Armstrong, of Whitby—another of the “old landmarks”—has passed away. The deceased gentleman was taken somewhat suddenly ill on Wednesday night, and gradually sank until he expired on Sunday evening last, at the ripe age of 86 years. Mr. Armstrong was born at St. John on Lake Champlain, near Montreal, on the 15th of April, 1787. When about twenty he settled on a farm in Hallowell, County of Prince Edward. A few years later he removed to Picton, where he engaged in the mercantile business, and thence to Kingston, in 1822, where he remained in business until he removed to Toronto in 1831. About 1835 he went back to Hallowell, staying there a couple of years, and again returned to Toronto in 1837, where he continued his business until his removal to Whitby in 1856. In 1835 he was elected a member of the Upper Canada Parliament, for the County of Prince Edward, for which he sat until the following general election. He was a witness of many of the stirring events which took place before the rebellion of 1837, and to the subsequent political changes which ensued, and although not an active participator in them, was a keen impartial observer, and took a deep interest in the many questions to which those stirring times gave rise. Mr. Armstrong married early—in November, 1806—Hannah, daughter of Dr. Dougall, of Picton, who survives him, and is now in her 85th year. Of his surviving children are two sons, James R. and John, and five daughters—the latter respectively the wives of Rev. Dr. Ryerson, Dr. Beatty, of Cobourg; Mr. George H. Spencer, collector of Manitoba; Hon. Judge Duggan, of Toronto; and Mr. Sheriff Reynolds, of this county. The deceased also leaves one surviving brother, Dr. Edmund Westrop Armstrong, of Rochester—two years younger than the deceased. Mr. Armstrong was a fine specimen of the Irish Canadian gentleman. His father was a member of an old family of that name from the banks of the Shannon, in the County Clare, and who early in life emigrated to the American Colonies of that day, and eventually settled down in Lower Canada, where, as already stated, the subject of this notice was born. In his manner Mr. Armstrong was modest and unassuming, kind and generous, ven to a fault—and upright and honourable in all his business transactions. He was a consistent member of the Wesleyan Methodist body, of which he became an adherent in the early part of his life. Of him it need only further be said that he lived the life of a good Christian, and died full of years, and of hope, knowing that his work was done, trusting to the merits of his Redeemer—leaving behind him, worthy of all respect and imitation, the memory of his good name and high example.—*Whitby Chronicle*.

2. J. L. SCHOFIELD, ESQ.

James Lancaster Schofield, born on 25th December, 1799, was in his seventy-fourth year. His long life has been entirely spent in these counties. For a considerable period he was engaged in the lumbering and mercantile business. In 1836 he became Deputy Sheriff. The rebellion soon after took place, during which he commanded one of the Flank Companies of the Militia, and was present at the battle of Windmill. He afterwards became Colonel of the 2nd battalion of Leeds and Grenville Militia, and always took an active interest in the service until its re-organization, when he retired retaining his rank. He became Treasurer of these United Counties in 1846, and retained that important office until his death, a period of twenty-seven years.—*Brockville Monitor*.

3. MRS. BANCROFT, MONTREAL.

Mrs. Bancroft was the daughter of Hon. Nath. Jones, successively member of the House of Representatives and Senator of Massachusetts, and niece of the Hon. Horatio Gates, member of the Legislative Council of Lower Canada. Her name appears in the list of founders of the Orphans' Asylum and Ladies' Benevolent Society, and for over fifty years she made this city her home, scattering blessings around and leaving an imperishable monument in the hearts of grateful survivors. She was one whom to know was to love, and with whom it was impossible to converse without benefit. When, in the financial crisis of 1836, trouble overtook the house of which her late husband was a partner, and when one week saw both Mr. Gates and Mr. Bancroft laid in the grave, leaving her a widow with the charge of five children, the eldest fifteen years of age, her spirit rose to the emergency, and she lived to see them established in life, and to gladden by her presence their homes. At one of these homes her death took place: and from another, the Rev. Canon Bancroft's, of this city, her remains will, to-morrow, be carried to Trinity Church, of which she was a member from its foundation, thence to Mount Royal Cemetery, where slumber in peace the remains of her husband and children who have gone before her. She died peacefully, after a severe illness, at the age of seventy-four. The secret of her happiness and usefulness was her strong faith in God, which never deserted her, and many will remember, with thankfulness, the influence which, as a Christian, she exerted over them.—*Montreal Gazette.*

III. Papers on Industrial Education.

1. INDUSTRIAL EDUCATION FOR BOYS.

We heard the proprietor of a large cotton factory say, some days ago, "I want fifty hands to whom I will pay a hundred dollars a month, and twice as many to whom I will pay seventy-five dollars a month, and I cannot obtain them. I can obtain plenty of labourers, plenty of men to do the common kinds of work about the factory, but I cannot obtain a sufficient number of skilled workmen." This complaint is a universal one. Every manufacturing and mechanical establishment in the land suffers from the want of skilled labour. This demand must be met. The people will before long manifest their wishes in this matter in such a way that those in authority will find it unsafe to resist them. The *Press* of Philadelphia, of May 17th, has an article on this subject, entitled, "The Education of Boys," to which we call attention. The *Press* says:—"There is no demand so pressing on the business world as is that for good men to take the lead in the enterprises which are now swallowing all the money we can gather. We do not exactly mean plodders in toil—dull and heavy workers—who have no idea that the burdens they bear can be lightened; nor do we mean, either, on the other extreme, what is called brilliant genius, flashing and dashing men of light hearts and little reflection, who live their short hour attracted by the world's brilliancy, like the moth before a flickering candle, rushing in to be burned and destroyed. What we mean is the man of sound practical acquirements, which he is able to apply to the business of life: and this brings us to the point of our subject—the education of boys in the applied sciences. What we want and what we must have are more schools where boys can be trained in the sciences which are invoked in the every-day business of life—the polytechnic system of education, which, while it trains a student in the theories, also fits him at once for the practical efforts of life. This is the education which puts a value on a young man, and all other education is worthless in the development of the true and useful man. Every mechanical operation, the pursuits of mining and agriculture, are now most successfully conducted by those who understand the applied sciences. It is not the man who has read Cæsar or studied Cicero who is able to lead a corps of miners into the dark caverns of the earth, nor the man who translates Greek and Latin who is able to build a stalk for a furnace, run a level for a canal, or find the true route for a railroad. The men who are only beginning to gather what was heretofore wasted, who are bringing into practical use what forty years ago was regarded as worthless, are they who have for the most part educated themselves in the sciences; but our operations have now become so vast that we must at once begin to provide for the education of our boys to fit them for the highest duty in all these lines of usefulness. We have expended millions of dollars in building great lines of railroad in order to develop our country, and the next expenditure must be in the education of boys, to fit them properly to conduct this development. In nine cases out of ten, the boy resolved to devote himself to the law, medicine, or the pulpit, remains a plod-

der; whereas, if he had selected a useful mechanical trade, and, while learning that, devoted half his time to the study of the applied sciences required to acquire a profession, he would have nine chances, to one against him, of rising to distinction and honour. We send our sons to stand behind a counter, because we believe it to be more honourable than standing before a work-bench; but it is a grave mistake. If we have the means to educate our children, let us do it, not that they may be polished, but that they may become usefully great—great in achievements which have real results in them, and are calculated to bless all mankind. There are thousands of boys of brain all over Pennsylvania who yearn for the opportunity to acquire a knowledge of the sciences for practical uses. There are still other thousands misdirected in their course of life by being encouraged to take up the professions—law, physic, theology, and merchandize—who, if afforded facilities and properly guided, would fit themselves for pursuits which have a higher value in the world's economy than those in which they engage. We do not assert that the study of the law and physics and theology is to be discarded entirely; but we do insist that too many young men are entering the first two professions from mistaken notions of false pride, and that, of all the miserable men in society, a second or third-rate lawyer or doctor is the most to be commiserated. Where one of these rises to eminence, there are scores drudging in poverty, who, if they had entered as engineers and draughtsmen, with the same amount of application it required to master the professions referred to, would have had more of a value placed upon them than they now possess."

CRAFT-SCHOOLS WANTED.—To remedy this aimlessness and unfitness for life which our education leaves our youth, we need more craft schools, where boys can become practical engineers, chemists, printers, machinists, and even farmers. The machinist would be none the worse if he should spend his evenings over Euclid instead of lager; the blacksmith, if he knew how to drive home and clinch an argument in metaphysics as skilfully as a horse shoe nail; or the dentist, if he could extract hidden Greek roots with the same facility as grumbling molars. Educated men would dignify any of these employments, and make them sought and not shunned by those worthy to fill them. A man who wants to run an engine ought to be educated for his business, just as much as a lawyer for his profession. We are a patient and long-suffering people, or we would never permit ourselves to be blown up by hundreds of ignorant engineers, who know nothing more of the monsters which they control than enough to feed them with wood and water, and oil up their creaking joints; or suffer ourselves to be sent to our graves by striplings in short jackets, who give us arsenic for paregoric, and strychnine for the elixir of life. The time is coming, and we trust not far distant, when all these positions of responsibility will be filled by men of education, and can be filled by none others; when ignoramuses will be obliged either to fit themselves for their proposed labours, or seek other employments.—*O. R. Burchard, in Scribner's for May.*

2. SCIENTIFIC INDUSTRY IN ENGLAND.

A Society for the Promotion of Scientific Industry has just been established in Manchester. Its object is the increase of the technical knowledge and skill of those engaged in the various industries, the improvement and advancement of manufactures and the industrial arts and sciences, and the general progress, extension, and well-being of industry and trade. The society is sending out artisans to Vienna to profit by the Exhibition now being held there, as was done by the Society of Arts on the occasion of the Paris Exhibition, and it proposes to hold in the autumn an exhibition of designs in textile fabrics and of fuel economisers.

Sir Josiah Mason, who has already built and endowed an orphanage at Erdington, near Birmingham, at a cost of more than a quarter of a million, has now arranged to erect and endow a Scientific College in Birmingham, on which will probably be expended an equal amount. All the arrangements for this magnificent gift have been completed. The site has been secured, and the deed of foundation duly enrolled in the Court of Chancery. The institution is to be called "Josiah Mason's College for the Study of Practical Science." A preparatory school may be added to the college, and the instruction to be given is strictly confined to subjects specially adapted to the "practical, mechanical, and artistic requirements" of the Midland District, more particularly the boroughs of Kidderminster and Birmingham. The trustees have power to include mechanics and architecture, and all other subjects necessary to carry out the objects of the founder. The site selected for the college is in Edmund Street. It is in the centre of the town, and close to the Town Hall, the Central Free Libraries, the Midland Institute, the new Post Office, and the proposed Corporation

Buildings. The land is therefore of the greatest value, and the founder has already laid out upwards of £20,000 on the site. He has also conveyed landed property producing about £600 a-year, and there is a clause in the deed in which he states it to be his intention to devote by his will additional funds for the use of the college.—*English Educational Times.*

TECHNICAL EDUCATION IN AMERICAN PUBLIC SCHOOLS.—Advices received at the American Bureau of Education at Washington, state that there is a movement on foot among educators throughout the country, but especially in the New England States, to modify the present system of education, so that it shall embrace the learning of some useful trade along with book studies on the part of poor children. The advocates of this system point to foreign countries as a proof in point of the practicability and usefulness of the new method.

3. EDUCATIONAL ITEMS.

The friends of the Auburn (N. Y.) Theological Seminary have succeeded in raising \$225,000 for the increase of its endowment, Auburn giving \$100,000 in private subscriptions, thereby retaining the seminary and securing \$75,000 from Mr. E. B. Morgan, of Aurora, which sum was pledged on condition that Auburn raise \$100,000, and \$125,000 be obtained outside the city by the 8th of July. If this condition had not been met, the Seminary was to have been removed to Aurora; Mr. Morgan agreeing to give ample grounds, put up all necessary buildings for students and professors, fully endow a complete faculty, stock its library and settle upon the institution such a fund as would meet all its wants liberally.—The academical branch of Madison University is to be put on an independent basis, under the name of Colgate Academy. John B. Trevor, who has already done so much for the University, has recently given \$13,000, and James B. Colgate \$17,000, making \$30,000 towards this endowment. Mr. Colgate has also paid \$10,000 for grounds, and has pledged \$50,000 more towards the erection of a suitable building now in progress. Thus these two gentlemen alone give \$90,000 to the enterprise.—An English gentleman in Calcutta vehemently contradicts the assertion of Dr. Murray Mitchell that "the effects of secular education in India are most lamentable, and have resulted in a terrible spread of immorality." He declares with emphasis that the secular education given, for instance, at the Calcutta University has not lowered but raised the standard of morality among those influenced by it. A native judge says that this education has done more to raise that standard than any other civilizing agency imported from Europe. It would seem that the right way to make Christians of Buddhists is not to inflict forcibly upon them a religious education they would very much rather not have.

—DETERIORATION IN AMERICAN TEACHERS.—An American Superintendent's report speaks of the almost universal want of thorough teachers. "While hundreds," it says, "can be found who will keep school, the number is comparatively small who are able to teach a school. In some localities very little heed is given to this fact, even if it be accepted as a truth. Elections are held and places are given in obedience to a system which characterizes our politics. As a consequence, incompetency thrives, merit is given the go by, and the business of instruction is put to shame."

—LEIPZIG UNIVERSITY.—The figures of the last session of Leipzig University show a total attendance of 2,650, of whom 894 are natives and 1,756 foreigners. Of these, 761 left, and the remaining 1,889 have been increased by 831. The total now is thus 2,720, namely, 931 natives and 1,783 foreigners. Amongst 421 theological students, 152 are Prussians, or nearly as many Prussians study theology at Leipzig as at Berlin. Students go to Leipzig from all the German States. Bavaria, which sends 3 to Berlin, sends 37 to Leipzig; Baden sends 19, and only 3 to Berlin; and Wurtemberg 31, while it also gives 3 to the capital. Leipzig attracts considerable numbers from Austria and Switzerland; but Berlin has a larger number of students from America and Asia, and more from France, Greece, Sweden and Norway.

—EDUCATION IN AUSTRALIA.—The education question seems to have been solved very satisfactorily in Australia. The Melbourne papers, in glowing terms, describe the successful working of the new School Act, which came into operation on the 1st of January last. Attendance is compulsory, education free and non-sectarian, the denominational training of the youth not being undertaken in the public schools. Catholics and Protestants, the citizens and the people in the rural districts, the rich and the poor have all gone into the matter heartily. Had they not been prepared to do so, had not public opinion been ripe on the subject, great difficulties would have occurred, owing to the attendance being compulsory. The Catholic leaders exercise great influence in Australia, and have helped to carry out this great reform. It is, however, more satisfactory to the laity than to the clergy. The laity are anxious to see their sons take a front rank in all walks of life, and it is stated that they pronounce the public schools far superior to the old denominational schools.—*Montreal Star.*

—SABBATH SCHOOL CONVENTION.—The Committee of the Sabbath School Association of Canada has decided to hold the next convention of Sabbath School Teachers for Ontario and Quebec in Shaftesbury Hall, Toronto, on the 21st and two following days of October.

Mr. MATTHEW ARNOLD reports this year, for the first time, in his quality of inspector of schools in London, on the public elementary schools of the Westminster division. He expresses a hope that Latin will ultimately be adopted as a part of the regular instruction in the upper classes of all elementary schools. "Of course I mean," he says, "Latin studied in a very simple way; but I am more and more struck with the stimulating and instructing effect upon a child's mind of possessing a second language, in however limited a degree, as an object of reference and comparison." He institutes a comparison between British and Wesleyan schools on the one hand and national schools on the other which is worth mentioning. In British and Wesleyan schools there is more of self-government, and of the life and vigour which accompany self-government, than in national schools; and Mr. Arnold explains this by the fact that the former schools are created and managed by the class which uses them, while national schools are in general created for the class which is to use them by people above it.

IV. Miscellaneous.

1. COUNTRY CHILDREN.

Little fresh violets
Born in the wildwood,
Sweetly illustrating
Innocent childhood!
Shy as an antelope,
Brown as a berry,
Free as the mountain air,
Romping and merry!

Blue eyes and hazel eyes
Peep from the hedges,
Shaded by sun-bonnets
Frayed at the edges!
Up in the apple trees,
Heedless of danger,
Manhood in embryo
Stares at the stranger.

Out in the hilly patch,
Seeking for berries;
Under the orchard tree,
Feasting on cherries;
Tramping the clover-blooms,
Down 'mong the grasses;
No voices to hinder them,
Dear lads and lassies.

Dear little innocents,
Born in the wildwood;
Oh, that all little ones
Had such a childhood!
God's blue spread over them,
God's green beneath them;
No sweeter heritage
Could we bequeath them.

—*Rural New Yorker.*

2. THE PRINCE OF WALES.

Dr. Russell, it is generally known, is on very good terms with the Prince of Wales, but he can hardly be suspected of idle flattery of the Prince in a letter intended for an American journal. Yet in his correspondence with the *New York Times* he writes as follows:—"Few people in England even are aware of the deep interest taken by the Prince of Wales in the politics of his country in its external relations. He carries on an immense correspondence with the great people of Europe, and if the forms of our Government and the jealousy of the House of Commons did not prevent his direct participation in affairs, he would be the most valuable Minister *sans portefeuille* of our Foreign Secretary or Prime Minister. There is not a minister, a man of note in Europe, with whom he is not personally acquainted, and his wonderful insight into personal character serves him better than a long apprenticeship to blue books and papers does other men. In the Russian question he is most deeply interested, and among the *gênes* of his position there is perhaps none that he feels more than his inability to pay a visit to that Empire of India." This gives a nobler idea of the heir apparent than people have usually formed, and especially does it differ from the portrait usually to be found in the correspondence of United States journals. But we believe it to be one nearer the truth, and we compliment the *Times* on the change.

V. Departmental Notices.

SUBJECTS OF EXAMINATION FOR THE ADMISSION OF PUPILS TO HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

(Prescribed by the Council of Public Instruction on the Twentieth day of May, and approved by His Excellency the Lieutenant-Governor in Council, on the Second day of June, 1873.)

THE SUBJECTS OF EXAMINATION for admission to the High Schools or Collegiate Institutes shall be the same as those prescribed for the *first four classes* of the Public Schools, but for pupils intended for the classical course, the entrance test in *Arithmetic* shall be the standard prescribed for the third class in the Public Schools, and the following subjects of the fourth class shall be omitted, viz.:—Christian Morals, Animal Kingdom, and Elements of Chemistry and Botany.

EXTRACTS FROM THE PROGRAMME OF COURSE OF STUDY FOR PUBLIC SCHOOLS (to 4th Class).

N.B.—The Italics show the Subjects of Examination for entrance to the High Schools and Collegiate Institutes.

SUBJECT.	FIRST CLASS.	SECOND CLASS.	THIRD CLASS.	FOURTH CLASS.
READING	First and Second Reading Books	Third Reading Book, to p. 164.	Third Reading Book.	<i>Fourth Reading Book to p. 244.</i>
SPELLING	First and Second Reading Books	Third Reading Book, to p. 164, additional, and Spelling Book	Third Reading Book, additional, and Spelling Book.	<i>Fourth Reading Book to p. 244, additional, and Spelling Book.</i>
WRITING	Letters of Alphabet and Simple Words.	Simple Words.	Capitals and Words neatly and legibly.	<i>Neatly and legibly.</i>
ARITHMETIC	Arabic Notation to 1,000; Addition and Subtraction; Simple questions in Mental Arithmetic.	Arabic Notation to 1,000,000, and Roman Notation to M. Arithmetical Tables; Simple Rules; Reduction; Simple questions in Mental Arithmetic.	* <i>Arabic and Roman Notation to four periods; Compound Rules, Least Common Multiple and Greatest Common Measure; and Vulgar Fractions to Reduction inclusive; Mental Arithmetic.</i>	† <i>Principles Arabic and Roman Notation, Vulgar Fractions, Decimal Fractions, Simple Proportion with reasons of rules, Mental Arithmetic.</i>
GRAMMAR		Pointing out the Nouns, Verbs, Adjectives, Adverbs, Pronouns and Prepositions, on any page of Second Reader.	Parts of Speech. Gender, person, and number of Nouns; Comparison of Adjectives; Separating Simple Sentences into their two essential parts.	<i>Principal Grammatical Forms and Definitions; Analysis of Simple Sentences; Parsing Simple Sentences.</i>
COMPOSITION		Simple Sentences, orally and in Writing; Short descriptions of simple objects.	Simple sentences of any kind, orally or in writing; Short descriptions of simple objects.	<i>Simple and Complex Sentences—orally or in writing; Grammatical changes of Construction; Short Narrative or Description; Familiar Letters.</i>
GEOGRAPHY	Cardinal points of compass. Map definitions and map notations.	Definitions. Map of World generally. Maps of America and Ontario.	Map of Canada generally.	<i>Maps of Europe, Asia and Africa. Maps of Canada and Ontario.</i>
LINEAR DRAWING ...	On Slates.	On Slates.	On Slates and Blackboard.	<i>Outline of Maps, common objects on paper.</i>

* Arithmetic Examination for entrance to Classical Course.

† Arithmetic Examination for entrance to English Course.

COUNCIL OF PUBLIC INSTRUCTION FOR ONTARIO.

The vacancies in the Council of Public Instruction having been filled up by His Excellency the Lieutenant-Governor in Council, the members of that body as now constituted are as follows:—

REV. E. RYERSON, D.D., LL.D., Chief Superintendent.
 VERY REV. H. J. GRASSETT, B.D.
 REV. JOHN JENNINGS, D.D.
 MOST REV. JOHN J. LYNCH, D.D.
 REV. JOHN MCCAUL, LL.D.
 HON. W. MCMASTER.
 VENERABLE T. B. FULLER, D.D.
 WILLIAM MCCABE, Esq., LL.D.
 HAMMELL M. DEROCHE, Esq., M.A., M.P.P.
 JAMES MACLENNAN, Esq., M.A., Q.C.

SUGGESTIONS TO CORRESPONDENTS OF THE
DEPARTMENT.

1. Letters should be addressed to the "Education Office," or "Education Department," and not to the "Normal School," which is a Branch of the Department, having its own letter-box at the Post Office.

2. Application for Maps, Apparatus, Prize or Library Books should (as stated on the face of them) be accompanied with the remittance named in the application. It should not be enclosed in a separate envelope, unless the fact is specially noted on the application. Very often the application (stating that a certain sum is enclosed) comes in one envelope and the money in another. This discrepancy should not occur without an explanation being given in the letter. The Post Office authorities do not now allow the form of application filled up to pass through the post as printed matter.

3. The name of the Post Office of the writer, or School Section, should invariably be mentioned in the letter. Frequently letters are received without either the date or post office being given in them.

4. Letters are often posted and registered at one office, while another one is mentioned in the letters themselves. This fact should be noted in the letter by the writer, otherwise the discrepancy causes confusion and inconvenience in the letter registry of money receipts.

INTER-COMMUNICATIONS IN THE "JOURNAL."

As already intimated, a department is always reserved in the *Journal of Education* for letters and inter-communications between Inspectors, School Trustees and Teachers, on any subject of general interest relating to education in the Province. As no personal or party discussions have, ever since the establishment of the *Journal*, appeared in its columns, no letter or communication partaking of either character can be admitted to its pages; but, within this salutary restriction, the utmost freedom is allowed. Long letters are not desirable; but terse and pointed communications of moderate length on school management, discipline, progress, teaching, or other subjects of general interest are always acceptable, and may be made highly useful in promoting the great objects for which this *Journal* was established.

THE NEW MAP OF THE DOMINION.

We are glad to state that the new and revised Map of the Dominion has now been published, and is ready for delivery.

The trustees of High and Public Schools, who have sent in their order for the map, will have them sent as soon as possible, either by express to themselves, or (to save expense) in some cases, in large parcels, to the Inspectors.

Due notice will be sent to the different schools when their maps are ready to be despatched.

EXAMINATION PAPERS.

The sets of Examination Papers used in the Normal School during the 20th, 21st, 22nd, 23rd and 24th Sessions can be sent free of postage on receipt of 30 cents each. Those of the 25th, 26th, 27th, 28th, 31st, 33rd, 36th, 38th, 39th, 40th, 41st, 42nd, 43rd and 44th Sessions, at 40 cents each, and those of the 45th, 47th and 48th Sessions, at 50 cents each.

The entire sets of Examination Papers for First, Second and Third Class Teachers for July 1871, or July 1873, neatly stitched, can be sent free of postage on receipt of 60 cents per set. Those used at the County Examinations for Second and Third Class Teachers for July 1871, July 1872, December 1872, or July 1873, can also be sent, free of postage, on receipt of 50 cents per set.

SCHOOL REQUISITE SPECIALTIES.

Myers' Zones of the Earth. A set of 10 Coloured Tablets, shewing the productions of the Zones. In Portfolio, with Descriptive Handbooks, price	\$5 00
Pictures for Elementary Instruction—Useful Plants—in two parts. Book form, with Handbooks	4 00
Balfour's Botany. Set of 4 Charts	10 00
Prang's Natural History Series for Schools. A set of 206 Pictures of Animals and Plants, represented in their Natural Colours, and arranged for instruction with Object Lessons	10 50
Oliver & Boyd's Object Lesson Cards on the Vegetable Kingdom. A set of 20 cards, with Mounted Natural Specimens. Price in box.....	5 50
Hawkins' Comparative View of the Animal and Human Frame. In book form. Price.....	1 95
Cutler's Anatomical Plates. Set of 8 Coloured Charts.....	10 00
Do. Do. Do 10 Do. Do.	12 50
Human and Comparative Anatomy. A set of 9 Charts. Price.....	14 00
Johnson's Indestructible Charts. Set of 10 Philosophical Charts, with Illustrated Key.....	20 00
Chart of the Solar System.....	3 50
Morrison's Skeleton Chart of Ancient History.....	2 00
Taylor's Sovereigns of England.....	1 50
Malcolm's Royal Family of Great Britain	1 50
Mechanical Powers. Hardwood frame, having 3 sets of Pulleys, 2 sets Brass Weights, Levers, Capstan, Screw, Inclined Plane, Wedge in Sections, &c. Price, with Descriptive Card and Box	17 50

TABLET READING SHEET LESSONS.

Being the First Book of Lessons in Tablet form, in thirty-three sheets, 75 cents (By post, postage paid).....	Price \$1 00
Mounted on 17 sheets of thin cardboard	" 2 00
Mounted on 17 sheets of stiff cardboard, varnished. "	4 00
Mounted on 33 sheets of stiff cardboard, varnished. "	6 00
The hundred per cent. is allowed on those and the Geography sheets.	

PRINTED SHEETS FOR SCHOOLS.

1. The New Programme	Large Sheets.	The ten sheets sent free of postage for 50 cents.
2. The New Limit Table		
3. A Blank Time Table		
4. Duties of Pupils		
5. The Ten Commandments		
6. Library Regulations	Small Sheets.	
7. List of authorized Text Books		
8. Merit Cards and their uses		
9. Hints on constructing Time Tables		
10. Departmental Notices		

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No. 10.

THIRD-CLASS TEACHERS AS ASSISTANTS IN THE PUBLIC SCHOOLS.

A good deal of confusion and embarrassment has arisen in many localities, owing to the determination of Trustees to employ none but a third-class teacher in their Schools. Trustees excuse the employment by them of third-class teachers on the ground that the law places no restriction on them as to the class of certificate which the teacher employed by them shall hold. True, the particular section of the Act, which authorizes them "to contract with and employ teachers for such school, section and determine the amount of their salaries," says nothing about the class of certificate which these teachers shall hold—the term "qualified teacher" being defined elsewhere—but it speaks of "teachers" for the school, and not a teacher, thereby implying that an assistant should be employed in every school. It, however, requires Trustees to "see" that their school "is conducted according to the authorized regulations;" and it further declares that "no Public Schools shall be entitled to any share in the fund applicable to it unless it is conducted according to the regulations provided by law." Now, these regulations require that the subjects mentioned in the Official Programme and Limit Table, and prescribed by the Legislature, shall be taught in the various classes of every school.

The law itself requires

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BOWDITCH GRAMMAR SCHOOL, SOUTH STREET, BOSTON, MASS.

the teacher "to teach diligently and faithfully *all the branches* required to be taught in the School, * * according to the provisions of this Act."

Knowing that third-class teachers are not competent to teach "all the branches required to be taught in the School," the Council of Public Instruction has prescribed that in every School in which two or more teachers are employed, one of them "shall be designated and known as the master, and the others as first, second, assistant," etc. The regulations also give the "master power," "to prescribe (with the assent of the Trustees) the duties of the several teachers in the School,"—but makes him responsible for the control and management of the classes under their charge." The regula-

tions further prescribe the specific duties of assistant teachers, and declare that in every school, where the number of pupils on the roll exceeds fifty, an assistant teacher shall be employed.

Overlooking the words of the Statute and the general regulations, Trustees, in some cases, object to the Programme as beyond the capacity of third-class teachers, and argue that as the subjects prescribed for the examination of third-class teachers are much below those required by law to be taught in the Public Schools, it is both anomalous and unjust to require their third-class teacher to teach them. They say, "We are authorized to employ third-class teachers for our School, and yet you require these teachers to teach subjects with which they are wholly unacquainted, and in which they themselves are not required to pass an examination."

We have already answered these objections, and have shown that, according to the letter of the Statute, Trustees are required to employ more than one teacher in every School. We have also shown that the regulations provide for the employment of a master and an assistant or assistants, and prescribe a programme of studies which this master and his assistant shall teach, in order to afford to every child in a Section an education suitable, &c., in the various branches of instruction prescribed by the Statute.

To admit these objections as valid would be to declare that no child shall receive an education beyond that which a third-class teacher may be able to give! This would, indeed, be an absurdity, as well as a gross injustice to the pupils in our Schools. This, also, as we have shown, was neither the intention of the Legislature, nor the spirit or provisions of the law and regulations which were framed to give effect to that intention. In nearly every school there are advanced pupils (or would soon be, if proper teachers were employed). According to the theory advanced by some trustees, these pupils must remain satisfied with the meagre education which third-class teachers can give them, and be denied that better education which the law secures to them, and for which their parents pay rates. Third-class teachers may be competent to teach the first and second and possibly the third classes in a school, but they are not qualified, and should not be employed to teach the fourth, fifth, and sixth classes. They can, therefore, only be useful as assistant teachers.

Formerly (under the School Law of 1850) County Boards of Examiners were required, in the issue of third-class certificates, to limit them to a particular School Section (on the application of Trustees), where the pupils were quite young, or were not far advanced. Under the present law, this restriction was removed; but in its place other provisions were introduced, which were designed to give greater facilities for the more thorough instruction of all the pupils of a School Section in the various subjects of a good English education, which the Legislature itself had declared to be necessary.

It would certainly be a singular anomaly for the Legislature, on the one hand, to determine that certain higher subjects of instruction be introduced into our Public Schools, and then declare that incompetent persons should be legally qualified to teach them. The law and regulations must be taken as a whole, and their symmetry and completeness must not be destroyed by giving a forced construction to one part alone.

The following article will give additional information on this subject:—

ADEQUATE ACCOMMODATION AND ASSISTANT TEACHERS.

In reply to a communication from a Trustee, on these subjects, the Chief Superintendent has sent the following reply:—

"The second section of the School Act of 1871 provides that 'Each school corporation shall provide adequate accommodation for all children of school age in their school division or municipality.' The seventeenth section of the Consolidated School Act authorises 'the trustees of each school section to see that the school under their charge is conducted according to the authorised regulations.' The seventh of the authorised regulations says: 'When the pupils in a school amount to more than fifty, and less than one hundred, the trustees must employ an additional teacher as an assistant.'

"Such are the provisions of the law, which it is my duty to see executed by all parties concerned. It is thus seen that the trustees of your school section are required to provide adequate school accommodation, not for the number that may be in the school for the time being, but for 'all the children of school age' in your section. The law makes the school free to all; requires the attendance of all, at least, one-third of the year; assumes that all may be present at one time, at least, a part of the year.

"In examining the returns, I find that the number of children reported of school age in your section in 1872 was 129, with 112 names on the school register the first half of the present year, although average attendance is only little more than half that number—

certainly a great shame to the managers of the school, whose neglect of adequate accommodation or adequate teaching must cause indifference and neglect in the attendance of pupils. I find by the returns that your school-house is 48 by 30 in the clear in the inside—affording sufficient space for all the children of school age in your section, if properly arranged, and for two teachers, if divided into two rooms, as so large a school-house ought to be.

"I can find no reasons in your letter that would justify me in not insisting upon the execution of the law in your section as in other sections much less favourably situated and much less wealthy than yours. You and your trustee colleagues are certainly bound by law, as well as by a consideration of the interests of the children under your official charge, to employ a second or assistant teacher. I observe that you speak of the average attendance of pupils; but that is not the law which speaks not of the average attendance, but of the 'number of pupils in a school'; and this is determined, not by the average attendance, but by the number of pupils on the school register. It is possible that trustees, from mercenary or other unworthy considerations, may keep the average attendance of pupils low by not providing adequate teaching or school accommodation for a large number; but the number of children whose names are on the School Register show the number of children whose parents wish to have them taught in the school, and for whose teaching and accommodation the trustees are bound to provide, under pecuniary penalties equal to the amount of the school money lost to their section by their neglect, besides being liable to prosecution for damages by any parent whose children or child is not provided with the legally required means of school teaching and school accommodation.

"Experience shows that trustees in rural sections who provide proper teachers and proper accommodations will secure an average attendance of nearly, and in some instances quite three-fourths of the children of school age in their division. Trustees who neglect their duty, not only violate the law and the public trust committed to them, and incur a pecuniary penalty, but they do a great and irreparable wrong to the rising generation, whose interests they have been elected to protect and promote, and for the sacrifice of which no money can ever compensate."

I. Papers on the Teachers' Examinations.

1. PUBLIC SCHOOL TEACHERS' EXAMINATIONS.

There is undoubtedly an impression to some extent prevalent among the public that the examination of Public School Teachers under the new regulations is unnecessarily strict and severe, and much displeasure is expressed by some good people, that so very small a proportion of the numerous candidates who flock to the half yearly examination succeed in obtaining certificates. It is undoubtedly a subject of just regret that our young people are not better instructed, and this regret is fully shared by the members of the Board.

In the County of Oxford the number of applicants for second-class certificates was six; only five, however, put in an appearance. One of these retired at the close of the first day, finding he was not equal to the exercises required in Arithmetic, and all the remainder at the close of the third day followed his example. To one of these, however, a third-class certificate was granted.

In the third class there were fifty-six applicants, of whom seven failed to appear. The total aggregate number of marks possible in this class was 1,185. Of these 50 per cent., or 593 marks, were required to pass, and thirteen obtained the required number.

The highest number of marks obtained by any of the failing candidates was 582—six ranged below that number down to 550—eight below the latter number down to 500—three from that down to 450—eight between 450 and 400—nine between the last number and 300—and one as low as 184.

It has been stated, in explanation of this not very reputable state of things, that many young persons present themselves for Examination without any expectation of passing, but come up, so to speak, to get their measure taken, that they may know what their intellectual standing is. This may display a very laudable ambition on the part of the applicants, but it is a practice that ought not to be encouraged, and it might be well for the Board to adopt some sort of test by which all would be excluded except such as really intend to enter the profession.

It is very much to be regretted, that most of those candidates who fail at a given Examination, and afterwards renew the attempt, not only fail again, and in some cases repeatedly, but, what is worse, many of them do not appear to have made any material advancement in the interval.

It might reasonably be expected that all who aspire to become the instructors of the rising generation should be able, if not in six, yet certainly in twelve months, so to master the subjects in the programme as to secure for them at least 50 per cent. of the marks require at these examinations.

Such, however, it is shown by the records of the Board, is not the case. Of the forty-eight candidates at the late meeting, 24 had previously applied and failed, only two finally obtaining certificates. Of the remaining twenty-two, eight had twice before failed; two, three times; and one, on that occasion, suffered a fifth defeat.

The following instances will show that some of the candidates, though threatened with the mortification of successive defeats, are unable during 6, 12 or even 24 months, to make any solid advancement in those very subjects in which their deficiencies had before been demonstrated. One candidate who competed in four successive Examinations obtained the following marks in arithmetic, at those several Examinations respectively; the highest number possible being 200; viz.: 28, 75, 45 and 52.

The same; spelling, 50 being the maximum, 40, 10, 30 and 15 respectively.

Another in the three successive Examinations in Geography, 150 being the maximum; 65, 78 and 49 respectively.

Surely the public will suffer no loss by the elimination of this sort of material from the teaching class.

"From such apostles," exclaimed the indignant Cowper, after describing an unworthy class of clergymen:

"From such apostles, O ye mitred hands, preserve the flock, and lay not careless hands on empty skulls, which cannot teach and will not learn."—*Woodstock Times*.

Toronto, 15th September, 1873.

To the Editor of the Journal of Education:

SIR,—I send herewith for publication in the *Journal of Education* some notes which I think may be of interest to teachers.

Yours very truly,

GEORGE PAXTON YOUNG.

SOLUTIONS OF THE QUESTIONS IN ALGEBRA AND NATURAL PHILOSOPHY PROPOSED AT THE RECENT EXAMINATION OF TEACHERS FOR FIRST-CLASS CERTIFICATES.

2. ALGEBRA.

1. Book-work.

2. Book-work.

3. Assume $x + y + z = t(m + n + r)$(1)

$\therefore x + 2y + 3z = t(m + 2n + 3r)$(2)

$\& x + 3y + 4z = t(m + 3n + 4r)$(3).

Subtract (1) from (2). Then $y + 2z = t(n + 2r)$.

Subtract (2) from (3). Then $y + z = t(n + r)$.

$\therefore z = t r$, and $y = t n$.

In like manner, $t = \frac{y}{n} = \frac{x}{m}$.

4. We have given the three equations,

$$xz = y^2, z = \frac{8y}{y+4}, y + \frac{1}{4} = 2x.$$

The solution of these presents no difficulty.

5. Let r and s be the roots of the first of the given equations. Then

$$r + s = -(m + 1) \\ rs = -3$$

$$\therefore A = r^2 + s^2 = m^2 + 2m + 7.$$

$$\text{In like manner } B = m^2 + 4m + 7,$$

$$\text{and } C = m^2 + 6m + 11.$$

$$\therefore (m^2 + 2m + 7)(m^2 + 6m + 11) = (m^2 + 4m + 7)^2.$$

$$\text{or, } 8m + 28 = 0 \quad \therefore m = -\frac{7}{2}$$

6. Because $(x + y \sqrt{-1})^5 = a + b \sqrt{-1}$, therefore also

$$(x - y \sqrt{-1})^5 = a - b \sqrt{-1}.$$

Multiply these together. Then $(x^2 + y^2)^5 = a^2 + b^2$.

$$\text{But } x + y^2 = 1 \quad \therefore a^2 + b^2 = 1.$$

7. Let r be the common ratio. Then the series is,

$$\frac{2}{r^2}, \frac{2}{r}, 2, 2r, \&c.$$

$$\therefore 7\text{th term} = 2r^4 = \frac{1}{8}.$$

The two real values of r are $\frac{1}{2}$ and $-\frac{1}{2}$; and the series are,

$$8, 4, 2, 1, \&c.$$

$$8, -4, 2, -1, \&c.$$

The remainder of the question is simple.

8. Because $m + n \sqrt{-1}$ is a root of the equation $x^3 + qx + r = 0$, $m - n \sqrt{-1}$ is also a root of that equation. Therefore, $x^3 + qx + r$ is divisible by $x^2 - 2mx + m^2 + n^2$ without remainder. Let the quotient be $x - s$. Then the expressions,

$$x^3 + qx + r,$$

$$(x^2 - 2mx + m^2 + n^2)(x - s),$$

are identical. Therefore,

$$2m + s = 0, m^2 + n^2 + 2ms = q, -s(m^2 + n^2) = r.$$

Eliminate s and n ; then

$$8m^3 + 2mq - r = 0.$$

9. It is easily seen that $a_1 ar - ab_1 = ar^2$,

$$a_2 b_1 r - a_1 b_2 = ar^3,$$

and so on. Therefore, &c.

10. [This question was not solved by any of the candidates at the recent examination. It requires reasoning of a more delicate kind than any of the other questions; and, none of the others presenting any special difficulty, I gave it as a test question, in view of the competition for the McCabe medal. I leave it as an exercise for students. I may add, that, taking into consideration the difficulty of this 10th question, I reckoned 9½ questions a full paper at the recent examination.—G. P. Y.]

3. NATURAL PHILOSOPHY.

1. *Mr. Cochrane's Solution.*—Suppose the cube to be 1 cub. ft.

Pressure on interior surface = $\frac{2}{3} \times 1000 = 3000$ oz.

$$\therefore \text{Pressure of air on one surface} = \frac{1}{2} \times 3000 = 4320 \text{ oz.} \\ = \frac{1}{8} \text{ lb. on the sq. in.}$$

But pressure of external air = 15 lbs. to sq. in.

\therefore Elastic pressure of air inside receiver = $\frac{1}{8}$ of elastic pressure of external air. [A considerable number of the candidates offered no solution of this very simple question; and a considerable number of others gave a partially erroneous solution.—G. P. Y.]

2. *Mr Cochrane's solution.*—Let $F E H$, $K E G$ be drawn parallel to $A D$, $A B$, respectively. (The point K is in $A D$, H in $D C$, G in $C B$, and F in $B A$.—G. P. Y.) Then, because $E A$ represents the first force in magnitude, its components will be represented in magnitude and direction by $E K$, $E F$. Similarly the components of $2 E B$ are represented in direction by $E F$ and $E G$, and in magnitude by $2 E F$ and $2 E G$. The components of $3 E C$ are represented in magnitude by $3 E G$ and $3 E H$; the components of $4 E D$ by $4 E H$ and $4 E K$. Hence the particle E is kept at rest by a force of

$$\begin{array}{l} 3 \text{ } E F \text{ in the direction } E F, \\ 5 \text{ } E G \text{ } E G, \\ 7 \text{ } E H \text{ } E H, \\ \text{and } 5 \text{ } E K \text{ } E K. \end{array}$$

But the forces $5 E G$ and $5 E K$ are opposite in direction; \therefore they must equilibrate each other; $\therefore 5 E G = 5 E K \therefore E G = E K$; which proves first. And the forces $3 E F$ and $7 E H$ are opposite in direction \therefore they must equilibrate each other.

$$\therefore 3 E F = 7 E H \text{ or } E F : E H = 7 : 3,$$

which proves second. [Mr. Cochrane's was the only perfectly satisfactory solution of this easy question in the Resolution of Forces.—G. P. Y.]

3. Let $B D$ be the perpendicular let fall from B on $A C$. The candidates, who solved this question, reasoned in the following manner: Let P , acting in direction $B A$, or W in $B C$, be counterbalanced by Q acting in direction $B D$. Then,

$$Q : P = B D : B A$$

$$\text{and } W : Q = B C : B D. \text{ Therefore, } \&c.$$

4. Let P move up AB from A to B , while W moves down BC from B to E ; BE being equal to BA . Draw BD and EF perp. to AC ; and let EG , parallel to CA , meet BD in G . Then, by the principle of virtual velocities,

$$P \times DB = W \times GB.$$

$$\therefore P : W = BG : BD = BE : BC = BA : BC.$$

But this is the relation which was found, in the previous question, to subsist between P and W .

5. (a). "The magnitude of forces is measured by their effects, and the effect of forces which we consider in Dynamics is velocity. . . . Accelerating Force is measured by the velocity which, in a given time, it would add to the motion of a body. . . . If the velocity added be equal in equal times, the force is said to be uniform or constant." [The above sentences, which I quoted once before from a work on Dynamics by Dr. Whewell, I quote again, because, though I have endeavoured, year after year, to get candidates for first-class certificates to apprehend the fundamentally important conceptions of acceleration and uniformly accelerating force, the recent examination shows that very general confusion of mind on the subject still prevails. One candidate says: "A uniformly accelerating force is one in which the acceleration is changed for every unit of time which the body moves." The writer would have been nearer the mark if he had said "is not changed." Another candidate says: "A uniformly accelerating force is a force that will move a particle through equal spaces in equal times." In this case I should say that there is no acceleration. Does the force of gravity at the earth's surface move a particle through equal spaces in equal times? Another candidate says: "A uniformly accelerating force is that which is acted on uniformly acted on (sic) by the force of gravity." Another: "A uniformly accelerating force is a force whose increment of increase is the same in equal times." A considerable number of other such answers have been given. Surely, teachers who desire to obtain first-class certificates may be reasonably expected to master a conception which is by no means abstruse, and without an accurate apprehension of which the whole science of Dynamics must be a mystery to them.—G. P. Y.]

5. (b) and (c). [These have not been satisfactorily answered by any of the candidates. I leave them as exercises for students. I believe that a student will derive benefit from a thorough examination of them. The only remark which I will make is, that the force to whose action, in conjunction with that of gravity acting vertically, the motion of the body along AB is due, is the reaction of the plane.—G. P. Y.]

6. As the uniformly accelerating force of gravity generates a velocity of 32 feet in the second, it will be 10 seconds before the velocity of 320 feet in the second is destroyed; and therefore when the particle shot upwards from A reaches its highest point, its elevation will be 1,600 feet. In 2 seconds more it has fallen 64 feet; hence, if D be the point where it is at the end of the 12th second, $AD = 1,536$ ft. But CD , the space down which the force of gravity has drawn the projectile from B in 12 seconds, is 16×144 . Therefore,

$$AC = AD + DC = 1536 + 16 \times 144 = 3840 \text{ feet.}$$

$$\text{Also } AB^2 = BC^2 - AC^2 = (4800)^2 - (3840)^2 = 2880^2.$$

$$\therefore AB = 2880.$$

7. Let x be the height to which the liquid will rise in the vessel. Then the pressure, in lbs., of the confined air on the liquid below

is $\frac{15 \times 144}{1-x}$. This is counterbalanced by $15 \times 144 + \frac{1152}{16}(1-x)$.

Therefore,

$$\frac{15 \times 144}{1-x} = 15 \times 144 + 72(1-x).$$

$$\therefore 30x = (1-x)2$$

$$\therefore x = 16 - \sqrt{255}.$$

8. Solution of Mr. John L. Davison.—(DE is drawn parallel to AB .) Since $AB = 39$, and $BC = 26 \therefore AC = \sqrt{(2197)}$.

And, by sim. triangles,

$$\sqrt{2197} : 26 :: 26 : DC \therefore DC = \sqrt{208}.$$

Again, by sim. triangles,

$$\sqrt{2197} : \sqrt{208} :: \sqrt{208} : CE \therefore CE = 8.$$

[The value of CE is correctly found; but there is a mistake—a simple oversight, I presume—in the statement of the proportion. The second term should be 26 instead of $\sqrt{208}$.—G. P. Y.]

And $\therefore DM = 20$. [This is rather curt; though, of course, when DC and CE are known, ED is known; and, when EM and ED are known, MD is known.—G. P. Y.]

Now, the three forces that keep the body at rest are :

- (1) The tension of string ;
- (2) The resistance of plane ;
- (3) The weight of the body acting vertically.

And since these forces keep the body at rest, the forces are each proportional to the sides of a triangle taken in order.

[This is not very well put. Mr. Davison should have said that the reaction of plane, the tension of string, and weight of body, are proportional to BD , DM , MB , the sides, taken in order, of the triangle BDM , whose sides are in the direction of the forces.—G. P. Y.] Now, since MB is parallel to the direction of gravity and is 34 feet in length, and since gravity [the weight of the body.—G. P. Y.] = 34, therefore each foot of the side corresponds to 1 lb. Therefore, since DM is 20 ft. in length, the tension of the string = 20 lbs.

9. Solution of Mr. John L. Davison.—(Mr. Davison draws AF and BG perpendicular to DC .)

Let R = force acting along DA .

$$R^2 = \dots \dots \dots B C.$$

[Mr. Davison resolves the forces vertically, and in a direction at right angles to the vertical; and then takes the moments about A . This gives him the following equations, x being the distance between the central point of the rod and the point of suspension of the weight.—G. P. Y.]

$$\frac{4R}{5} + \frac{12R^1}{13} = 112$$

$$\frac{3R}{5} = \frac{5R^1}{13}$$

$$56x + 784 = \frac{168R^1}{13}$$

[From these equations he obtains $x = 4$. Therefore, &c.—G. P. Y.]

II. Papers on Teachers' Institutes.

1. TEACHERS' INSTITUTES.

Elsewhere our readers will find a report of the proceedings of the Teachers' Institute held in the Central School during Friday and Saturday last. Those who had the good fortune to be present can testify to the practical and excellent character of the work accomplished, and they will probably conclude therefrom that something more must be done ere our educational system shall have attained its full growth and maturity. What that something is, must be, indeed, has been long, evident to all intelligent educators. The Normal School at Ottawa will probably be open for the reception of students in a year's time, and two additional ones will likely follow, one at Kingston and the other at some point in the west. Thus the whole Province will be amply supplied with Normal School privileges. As adjuncts to these Schools for the training of Teachers it is considered that Teachers' Institutes are necessary, and, judging from the success of that held here last week, we should be disposed to regard them as an essential part of the system. Their advantages have been recognized by the Legislatures of several of the neighbouring States. Appropriations for them have been made, and the result, so far, has been pronounced satisfactory. In the State of Michigan, \$5,000 is annually allowed for Institute expenses; in Maine, \$4,000; in California, \$100 for each County Institute of from three to five days' length; in Pennsylvania the amount varies from \$60 to \$200 for each County Institute according to the attendance; in Iowa, \$50 is allowed for each, and in Indiana the same amount.

In the School Act passed here early in the year 1850, an appropriation was made "for the encouragement of Teachers' Institutes," and in that year Messrs. Robertson and Hind, then masters of the Normal School, held Institutes in each County of the Province. Last year the Local Legislature made a similar appropriation, but the money has not yet been touched. Assuming, then, that sometime during 1874 we shall have two Normal Schools in operation, one in Toronto and one at Ottawa, with possibly the Kingston establishment in course of erection, and Institutes at different points as adjuncts to them, the question of efficient management and supervision immediately presents itself for consideration. At present the prisons of the Province and the Deaf and Dumb Institute at Belleville, and the Institution for the Blind in this town, are subjected to periodical inspection by a competent officer who is responsible to the Local Government. An officer with similar powers and suitable qualifications will, we may premise, be needed for the proposed Institutes and Normal Schools. For the proper dis-

charge of such a duty, however, the services of a gentleman of exceptional skill, experience and ability will be required.

To competent scholarship must be added a thorough acquaintance with the best and most approved methods of teaching, as well as with school organization and school government.

We look forward to see in the near future in Ontario greatly increased Normal School facilities, the establishment of Teachers' Institutes all under intelligent supervision and all except trained teachers excluded, as is the case in Europe, from the schools of the country.—*Bradford Examiner*.

2. BRANT COUNTY TEACHERS' INSTITUTE.

The teachers of the County of Brant during Friday and Saturday of last week were privileged as few ever have been in this Province. Dr. Sangster, late head-master of the Normal School, Toronto, having been casually met with a few weeks ago by our esteemed and energetic Public School Inspector, and upon the matter of a Teachers' Institute in this town being broached, and the earnest desire of the Brant Teachers' Association expressed that he should be present if possible, he at once tendered his services gratuitously, offering to conduct the exercises during two or more days if desirable. Ample notice of this important event was given through the local press, and cards of invitation with a printed programme thereon were sent to all the leading officials and prominent educationists in this county as well as to several in neighbouring counties. The Institute was held in the Central School, and a very large number of teachers and others were present to profit by the instructions of the accomplished and distinguished lecturer. We regret to be compelled to state that several of the young teachers who are most in need of instruction in all matters pertaining to their profession, who were present during a portion of the first day, failed to appear on the second. We are not sure that it would not be an act of justice to them and their friends to give their names in full, and thus teach them a lesson for the future. The profession would be well rid of such members, and we would advise them to make themselves acquainted with the requirements of some less noble calling. It is satisfactory, however, to know that the great majority of our teachers, male and female, took a hearty interest in the proceedings of the Institute, and plied their pencils with extraordinary diligence.

I think it might be said without fear of contradiction that there has not been anything of as intellectual a character in Brantford for many years.

Promptly at ten o'clock on Friday morning the meeting was called to order by the President, Dr. Kelly, who in a few well-chosen and eloquent sentences introduced the lecturer. On rising, Dr. Sangster was greeted with loud applause, and forthwith proceeded to discuss the most approved method of teaching arithmetic. Two things, he said, must be kept constantly in mind in teaching this and all branches of education, namely, the development of the child intellectually at the same time that the mind is stored with useful practical information. It might seem too strong perhaps to state that many of them would be puzzled to say how they stumbled into a knowledge of arithmetic, but the condition of schools in other parts, if not in Brant, justified the assertion. He believed that the child was made an arithmetician during the first six months of his school life, or for ever debarred from success in its study. He could not then too strongly deprecate the too early introduction of a text book into the child's hands, as this tended to involve rather than to simplify the subjects. The living voice of the active, energetic and intelligent teacher, mind speaking with mind, was the only proper method of instructing the child when first introduced to school. A second error, he said, was a want of thoroughness. The admission that one has been "through the book" two, three, or more times was sufficient to show that he knew nothing at all of the subject. When the child was properly taught there was no need of having him repeat his book. Some teachers are deceived as to the thoroughness of their class—a small percentage, perhaps, giving the correct solution while the others copy from them. Hence he would recommend placing the pupils in such positions as would render prompting and copying impossible. He would also recommend holding thorough, impartial and strict examinations at stated periods. A mariner imbued with a sense of his responsibility omits not to take his reckonings; why then should the educator of the youth spend month after month without determining the position of his class—who are making progress and who are not? Some teachers also, he regretted to say, were wilfully dishonest in this matter. Finding it an easy matter to persuade the child, and through the child, the parents, that progress was being made, they lustily sounded their own praises for a year or two, until some fortunate

event revealed the truth. Such teachers were constantly shifting their places, and the pity was that they were ever allowed to rest. They cursed the community instead of blessing it where they happened for the time to get employment. A third error was allowing the pupil to wander from rule to rule without giving any other reason for the operation than that the book said so. Every step of such process should be explained and repeated till a clear perception of it was fixed in the mind. He did not mean till the pupil could explain it in return, for this required a power of language which was not always found in children. To understand was one thing, to explain another. But the intelligent teacher was never at a loss to know by the eye of his pupil that the mind apprehended his explanation.

A fifth error and a most crying evil was not making the matter practical. How many pupils were there who had gone through the whole course of arithmetic, and could, perhaps, solve tolerably difficult examples, and yet when required to calculate the price of a load of hay or wood or the interest on an ordinary note were utterly at sea. The urgent demand of the age, and one to which teachers would do well not to close their eyes, was for a more practical common school education. The want was felt in the United States, and is beginning to be felt in Canada. Having thus pointed out the more common defects, he proceeded to show what method he would recommend. And first, he would say, that the perceptive faculties develop before the reflective. Hence the child first learns things, then names as attached to things. Therefore in teaching young children abstract numbers should never be used.

Begin by teaching the child to perform simple operations mentally, then to represent these on the board or slate, and, lastly, to reproduce the same operation with the use of other numbers, always following the order, *mental-work, black-board, slate*. At least one-half the time should be spent in review, that every operation may be understood and remembered.

I have thus far given a brief outline of the accomplished gentleman's lecture on arithmetic, which will give a key to his method of teaching other subjects, with, of course, such differences as are interesting to the practical teacher alone. His instructions, couched in language most elegant and eloquent, listened to with rapt attention for six or eight hours each day, cannot fail to elevate the status of schools in this and surrounding counties. At the close of the second day the following resolutions were adopted:—

Moved by James Mills, Esq., M.A., seconded by Wm. Wilkinson, Esq., M.A.:

"First, that the members of the Brant County Teachers' Association and the other friends of education here assembled embrace this opportunity of testifying to J. Herbert Sangster, M.A., M.D., their very high estimate of his abilities as a teacher, author and lecturer; secondly, that they tender that gentleman their most cordial thanks for his great kindness in conducting their Teachers' Institute during the last two days; and, lastly, that in their opinion his lectures are of inestimable value to teachers, and his generosity in giving them gratuitously beyond all praise."

Moved by Thomas Pearce, Esq., Inspector of Schools, Waterloo Co., seconded by Wm. Rothwell, Esq.:

"That the members of this Association being fully convinced of the great benefits that must arise to the profession from Teachers' Institutes being held throughout the Province, consider it very desirable that they be established by the Government at its earliest opportunity, and that a copy of this resolution be forwarded to the Hon. the Attorney-General.—Carried."

Moved by W. A. Douglas, Esq., M.A., seconded by G. B. McIntosh, Esq.:

"That the members of this Association desire to express their sincere thanks to their esteemed President, Dr. Kelly, for his untiring efforts in behalf of the Association, and especially for his success in securing the services of so able and experienced a lecturer as Dr. Sangster."

At the close Dr. Sangster was enrolled as an honorary member of the Association.

The Association then adjourned, to meet again three months from date.

WILLIAM ROTHWELL,
Sec. B. T. C. Association.

3. TEACHERS' CONVENTIONS AND INSTITUTES CONTRASTED.

There does not seem to exist, in the minds of educators, a very close discrimination between the legitimate duties of a convention and those of an institute. The exercises of one very often run into those of the other.

A convention of teachers is one where educators meet for the discussion of questions of a general nature, and where any man may freely ventilate his opinions, independently of all other exercises. The lecturer finds here a prominent place.

On the other hand, an institute should be conducted by one master spirit, whose influence, like a golden thread, should run all through the exercises. He should have just assistance enough to relieve him from the too continuous strain upon his mind, and he should be able to hold the attention of as many teachers present as possible, and to keep them there throughout the session. Extraneous lectures should be reserved for evening exercises, or omitted altogether. The convention may combine with it the exercises of the institute, but the institute should not partake of the character of a convention. The institute should be chiefly devoted to methods of imparting knowledge, and such other matters as belong to the immediate exercises of the school-room. Theories and doubtful questions should be reserved for the convention. The institutes in this State for the last two years have generally been of the character here indicated, and owe their great success to this fact.

It is believed by the writer that our State association, at its annual meeting, should have, at least, one subsection for the special benefit of the majority of lady teachers present. Few of this class of teachers take any interest in subjects of general discussion, while they would be greatly benefited by listening to a discussion and illustration of the best methods of teaching and managing their schools. If there is a fear that the subsection would draw too heavily upon the educators present, and leave the principal meeting in a minority, it would only prove which was of the greater value and interest. It is to be hoped that the managers of our State association will take this subject into consideration at the next meeting.

With reference to an institute, there is no place where the incidental lecturer will find himself placed in a false position and feel it, as one who breaks in with some topic out of the regular course of thought which should pervade all the exercises. As a rule, then, *the teachers will carry away practical knowledge from an institute, in the ratio of the small number of persons employed as instructors.* It will be understood that this does not interfere with discussions which may arise that are often of the greatest value, nor with the evening lecture, which often has a most powerful influence in educating public sentiment, that could not be reached in the day exercises of the institute.

As the fall institutes will commence in a few weeks, it is hoped that any defects that may have heretofore been felt to have existed, will be removed, and that this most powerful agency in stimulating teachers in their work will be more powerful than ever.—N. T. T.

4. THE MANAGEMENT OF TEACHERS' INSTITUTES.

It seems to us that the time has come when the teachers' institute should enter on its distinctive work. It is neither a convention nor a literary exhibition, and it is no longer necessary to make it popular by exercises entirely foreign to its great object—the professional improvement of teachers. The hours of the day sessions should certainly be filled with lectures, class drills, and other exercises which bear directly on school organization, management, and instruction. The exercises of the evening sessions may very properly be of a more popular character; and this will be found necessary when an admission fee is charged to meet the expenses of the institute. The sparkling essay, the literary lecture, the elocutionist's art, and the choicest music may be used to interest and delight the audience.

While no part of the evening sessions should ordinarily be devoted to professional instruction, we see no reason why educational topics should be excluded. There are no questions of greater general interest than those relating to education, and none which more fully meet the conditions of a popular lecture. It is, moreover, very important that the great educational issues of the day be discussed before the people by the ablest speakers of the country. Public interest and confidence in the schools will thus be increased, and the school system will be still more strongly fortified against the assaults of its enemies.

But we see that our pen has run away from our purpose, for we intended to write but a brief paragraph on this subject. We wished simply to bear testimony against the foolish idea that the work of an institute should be done by its members. An institute thus conducted is just about as efficient as a school in which the pupils successively act the teacher. An institute should bring to inexperienced teachers the ripest experience, the best methods, and the soundest views of the profession.

5. TEACHERS' INSTITUTES IN MANY STATES.

The laws of many States, in regard to Teachers' Institutes, are more liberal than ours. Aside from the provisions for State Institutes (which do not reach the mass of the teachers, and present such instructions as they most need), the law is absolutely silent, except in the obscure mention of Institutes by the County Superintendents' Act, as among the means to be used by these officers for the improvement of the schools, and the elevation of the character and qualifications of the teachers, in their respective counties. How the Superintendents were to hold these meetings, and secure adequate assistance and equipment, without some pecuniary foundation, does not seem to have entered the minds of our legislators. In the unregretted days of the peripatetic book agents, it was quite easy to secure gratuitous assistance, some of which was very valuable; but, since their withdrawal from the field, the organization of a first-class Institute is almost impossible, unless the Superintendent will personally assume the expense.—Not being compelled by law to attend such meetings, teachers will not join them in any large number if a tuition fee is charged, or a liberal assessment is likely to be made upon them. It is extremely difficult, in many counties quite impracticable, to secure the vote of a subsidy by the Board of Supervisors, and, as already noted, the State makes no pecuniary provision for this important work. This matter is better managed elsewhere. Wisconsin compels the County Superintendents to "organize and conduct at least one Institute for the instruction of teachers in each year," and authorizes the Board of Regents of Normal Schools to use any sum within \$5,000 per annum for Institute expenses. In the expenditure of this allowance, they must give preference to the sections of the State receiving least direct benefit from the Normal Schools. District Boards are authorized to allow teachers their wages for time spent in actual attendance upon Institutes. In Maine, where ever twenty-five teachers of any county make a written request to that effect, the State Superintendent may hold an annual Institute in that county, of at least ten days' duration, and may expend \$4,000 per year upon such Institutes. California appropriates \$100 for each County Institute of three to five days' length, which the local Superintendent must hold annually in counties having ten or more school districts. Every teacher of a public school must attend, and the school boards "shall not only allow, but shall require the teachers in their employ to attend every Teachers' Institute held in the county," and their pay is not diminished for such attendance. Any county having a regularly organized Teachers' Association or Institute, holding meetings monthly, may be exempted, if a majority of the teachers in the county vote to sustain monthly meetings. Pennsylvania appropriates \$60 to \$200 (according to attendance) for every five days' Institute. Each County Superintendent must hold one yearly. The teachers may be allowed their time, and "any teacher who absents himself from the Institute of his county without a good reason, may have his want of professional spirit and zeal indicated by a lower mark on his certificate in the practice of teaching than he would otherwise have received. Two Saturdays in every school month may be used for Institutes in any district, and reported as a part of the school month. Iowa gives a subsidy not exceeding \$50 for each Institute of not less than twenty members, and six working days. Any school in the county must be closed while the Institute is in session, and the teachers' pay goes on during the time. They, as well as all candidates for certificates, are required to attend, or present satisfactory reasons for non-attendance, before receiving license to teach. Similar provisions subsist in Kansas. Indiana allows \$50 for an Institute having an average attendance of forty, and \$35 for one with an average of twenty-five. The common schools must be closed during the session, but the teachers are not compelled to attend, nor is their time allowed them, even though they attend. A good foundation for an Institute fund is provided in Ohio, where teachers pay a fee of fifty cents for examination, which is set apart for their benefit, in meeting the expenses of County Institutes. The plan contemplates a permanent organization, with at least forty members. In most of these States, and in New York, the county school officers are required to hold Institutes once a year. In the State last named, the Commissioner must "induce, if possible, all the teachers in his district to be present and take part in the exercises." A teacher who closes his school to attend an Institute does not thereby forfeit his contract, and has his time allowed. The necessary expenses are paid by the State. In Vermont, only two days' time is allowed teachers for attendance upon Institutes, without diminution of wages. Louisiana has a curious provision that Institutes shall be held "where the teachers will receive the encouragement of hospitality." Illinois makes very indifferent provision for Institutes, but, by a recent law, provides for the organization of County Normal Schools.—Michigan Teacher.

III. Papers on various School Subjects.

1. HIGH SCHOOL BENEFITS.

As the following, from the Port Hope *Guide*, places a matter which is of interest to all in a light which will be new to some, we transfer it to our columns:

"With much gratification we notice at the meeting of friends of Trinity College School, called to devise ways and means for finishing the building, the large amount of \$20,000, 'by which the authorities of the school claim that our town was benefited last year by the existence of the School here.' The statement is a truism, yet it cannot be too often repeated, that whether it be a factory or a school, a company or a college, if it brings to our town mouths which must be fed, and backs which must be clothed, and the money from outside to pay for the feeding and the clothing, it must make more money circulate in the town, to the direct benefit of our merchants and tradespeople, and to the indirect benefit of the whole community. Therefore, we repeat, we were highly gratified to learn that the School mentioned had been the means of causing that additional sum to circulate in our town during the past year, and we think that this gives that institution just claims upon the support of our business men and others who have the welfare of the town at heart. These considerations led us to reflect on the amount of benefit conferred on the town by the excellent High and Public Schools which it possesses. We pass over, as patent to all, the convenience and advantage of having at our own door institutions in which our youth of both sexes can receive an education, ranging from the merest elements to such as will enable our boys to enter any university, and our girls any sphere of life that may be open to them.

"We say this is an inestimable advantage patent to all, but it is not so patent, and therefore not so well known, that the excellence of our schools attracts not a few pupils from the surrounding country into the town, thus benefiting it to the extent of what they spend in it. We knew this was more or less true, but not till we inquired did we know to what extent it is true. We find that some few pupils from the country, notwithstanding the fee charged to non-residents, attend our Public School because the education there given is of necessity better than that which the free rural school of the rural section affords. They are for the most part children whose parents wish them thoroughly prepared for entrance after a time into the High School.

"But it is chiefly to secure the advantages which the latter School affords that pupils from the country come into town. We were shown the names of no less than 33 pupils from the country, who have attended the High School since the beginning of the present year. Of these some were from beyond Peterboro', some from Millbrook, some from near Newcastle and Newtownville, and some from the neighbourhood of Bowmanville. Now the point we would urge upon the attention of our business men and others is this, that, allowing that some 70 or 80 pupils attending Trinity School bring to the town the sum of \$20,000 per year, the 33 pupils attending our own High School must benefit the town to a proportionate extent—say between \$7,000 and \$8,000; and that it is their interest to maintain its efficiency, increase its excellence, and add to its reputation by all the means in their power. It is certainly nothing less than suicidal to begrudge it a liberal support.

"It will easily be seen, too, that the town is not only vastly benefited by the pupils from a distance which the High School attracts here, but also by those pupils which it keeps here. For, doubtless, if we had no such institution of our own, or if the education given in it were not such as the community demands, scores of our youth would be sent elsewhere to obtain what was denied them here, and the \$200 per year not including extras would be lost to this town and go to enrich some other. If any doubt the correctness of this view, let them ask Cobourg, at what it values the possession of Victoria College, and the Corporation of Toronto the value to the city of the numerous educational establishments within its limits."

2. CLASSICAL HUSKS.

Professor Taylor Lewis read some time ago before the University Convocation a very weighty paper, the object of which was to show that students in our colleges should be taught either considerably more Latin and Greek or considerably less. It is pretty clear that, so far as the classical languages are concerned, our colleges now occupy a position utterly unsatisfactory to everybody. The scientists tell us that not much worth while is learned of the dead languages in college, and they would have something else take their place, and the classicists repeat the strophe, only varying the anti-strophe to urge that, if so much time is given to these languages, so

much more be allowed as is necessary to give our graduates a real command of them.

The facts are beyond dispute, and some change seems needed, though what it should be it is hard to tell. A college, be it understood, in the first place, is not an institution which professes to give exhaustive instruction on any subject. Its object is to open a great many doors, and to ask its pupils to look in and see the treasures beyond them, that they may be able to decide afterward which they will make their own. A college, besides its disciplinary function, has the object of giving valuable information, but that information, being on all branches of learning, is necessarily only of a very rudimentary sort. There is, we confess it, but a smattering of anything taught in a college, and the complete instruction is left to the post-graduate university courses and to private study.

Remembering this principle, it might seem reasonable to expect that a man should leave college with but little Latin and less Greek. But, as we understand it, the object sought in studying the classical languages is an acquaintance with classical literature, and not a facility in rendering a classical author. The ability to translate is elementary. It is the door, and not the treasure.

A college graduate has been studying Latin and Greek for six or seven years. In that time he ought to be able to gain such a facility in translation that he would hardly notice whether he were reading Latin or English prose. And yet we venture to assert that of the two or three thousand young men who will be graduated this summer from our colleges, there will hardly be five (omitting, possibly, a few graduates of Catholic colleges) who will be able to read Cicero's Letters or Quintilian's "*De Institutione Oratoria*" fluently at sight. Our graduates will infallibly forget the most of their Latin and Greek, retaining enough of the former to understand a legal or medical term, or as much of the latter as may be secured by an occasional reading with Robinson's Lexicon of the Greek Testament. On Commencement Day it would yet be a task for them to get the sense out of a page in the languages to which they have given half of their study for seven years. They are not prepared to become enthusiastic students in the choicest literature of the world.

There must be a serious error in the present style of instruction, and we are confident that it is in the object aimed at by our teachers. They naturally hold up as their end of instruction a grammatical acquaintance with the language, rather than a knowledge of the literature contained in it.

What we would have is, not a less thorough, but a less persistent teaching of grammatical rules. One lesson or lecture a week might be devoted to grammar and derivations, and the main study directed to a large acquaintance with literature and a rapid command of the language. The ability to repeat the exceptions "*Alica, brassica, dica, fulica*," etc., wastes a great deal of time and adds nothing to the scholar's command of Latin. Cudworth could not have repeated that list, and he knew more Latin and Greek than all our colleges put together. What is the necessity of drilling wearisomely in the rules of pronunciation, the euphonic changes of letters, the succession of tenses, and the canons of the subjunctive, when this disproportionate attention necessarily compels inattention to the enlargement of one's vocabulary and the facility of reading the classical authors? The Greek rules for "*Tau* mutes" are not a whit more important than that which gives *d* a *t* sound after *c* in "*priced*," while it retains its own sound after *s* in "*raised*." There is as much a rule in English as in Latin—but nobody thinks it worth while to know it—which controls the subjunctive in the sentence "*We have not so much as heard whether there be any Holy Ghost*," but which is to be learned rather by literary instinct than by formulation.

We cannot urge that more time be allowed for the study of the dead languages. The sciences and mathematics press too close upon them. We do urge that the main object in studying them be not forgotten. Let us teach our young men that above the roots of a language they may pluck flowers and gather fruit.—*Independent*.

3. WILL EDUCATION PAY?

Does it pay to educate the people? Shall we get back the cost? This is the question of the day put into its shortest form. In other words, the problem stands thus: It takes a certain amount of hard honest thinking to do the work of the world. We cannot cheat nature. "*An eye for an eye and a tooth for a tooth*" is her motto. We hang a small weight on the long arm of a lever and chuckle with satisfaction to see the heavy weight on the other end rise. And in our delight at outwitting gravity we do not notice the very small distance moved once by our great weight as the immense are described by our power. We cheat ourselves only. We put the execution of our plans into the hands of an ignorant unthinking set of labourers, and sit back in our easy chairs serenely smoking, and

congratulating ourselves on our escape from toil. And we find ourselves worn out with vexations and annoyances, our material is wasted, our directions misunderstood, our plans "gang agley;" the more seeming help we have, the more weary we grow, and the more utterly unable we are to foresee or prevent the absurd escapades from our carefully arranged regulations. In despair we find ourselves forced to perform the work from which we had cheerfully assured ourselves that we are the small power at the large end, and it is only by the most absurdly disproportionate exertions that we can succeed in starting the big weight at the other end and moving the beam at all. We spend our energy on that which profiteth not, and are only conscious all the time that we are converting our gold of rational thought into dirty paper.

We need only appeal to the employers in all lines of business to be answered that we have spoken the truth.

Now, is it not plain that the only remedy for the trouble is to convert the paper into gold, that is, to educate the labouring classes into intelligence? Till we do, we must pay the penalty. The rich man leaves the streets and alleys of the poorer section of the city uncleaned, and builds his tenement houses without ventilation, and the malaria from the alleys and the fever poison from the overcrowded tenement houses enters his own palace windows, and feeds on the life of his own children. This is no more true in the physical than in the mental world. The rich man grudges, refuses money to the public schools, cuts the teachers' salaries so low that no teacher worthy of the name will stay with him, and he dies in an insane asylum or drops in the street struck with apoplexy, or gradually becomes an idiot, as his over-worked brain returns before his death to primitive chaos.

We must have thoroughly educated labourers; this is what the death-columns in our papers every day says. Can we not intelligently accept their warning; or shall we still persist in using up our gold for worthless paper.—*St. Louis Journal of Education.*

4. EDUCATION DOES PAY.

Education pays. Pennsylvania taxes herself \$9,000,000 a-year for the education of her children in the common schools, and makes money by so doing. The man who pays his school taxes merely loans his money, and, if well used, it will come back to him, or to those who shall inherit his property. True, even if education did not pay in money, it would be worth all it costs, for money can have no better use than to lift men up to a higher intellectual and moral level; but just now we want to emphasize the truth, that every dollar judiciously spent for educational purposes brings back another dollar with usury.

In this connection, we beg to present a few extracts from an address recently delivered before the Wisconsin Horticultural Society, by Hon. Samuel Fellows, Superintendent of Public Instruction:—

"I have just been perusing with intense interest the report of the bureau of education, on the relation of education to labour. A series of questions was addressed to a large number of intelligent employers in all parts of the Union as to the effect of education—mainly common school—upon each person in their employ. The answers were nearly unanimous 'that his value to the community at large is positively increased, and his power as a producer of adding to the common stock of wealth is materially enhanced by the education given him as a child in the common school.' The increase of wages he will receive on account of his knowledge is put at various figures, averaging nearly twenty-five per cent. That this increase of value arises, 1st, from the fact of his being more readily instructed in the duties of his work; 2nd, that he needs less supervision; 3rd, that he does his work to better advantage; 4th, that he is less liable to join in unreasonable strikes; 5th, is more industrious; 6th, less dissipated; and lastly, is less liable to become an expense to the Commonwealth through poverty and crime.

"Now, remember, gentlemen, that twenty-five per cent. is added to the value of the labourer from the possession of the slender outfit given in the common school. What will be the per cent. of value if, in addition to this, he receives a training, in part, which specially fits him for his work? The answers are given to such an inquiry in the report alluded to. That a knowledge of the sciences that underlie the occupation gives greatly increased value to their possessor is agreed on all hands. It does this: 1st, by enabling him to avoid dangers, in mining, for instance, to which ignorant men are exposed; 2nd, by enabling him to detect and remedy difficulties which else would cause expense and delay; 3rd, by enabling him to discover shorter and simpler methods of work, thereby increasing his powers of production; 4th, by stimulating his qualities of contrivance, so that he adjusts and modifies the tools or machines which he uses, and becomes eventually an inven-

tor of simpler and better machines, thus increasing the wealth-producing power of his fellow-labourers. In this direction, it is estimated by these men, competent to judge, that his value is increased *one hundred per cent.*, while in certain exceptional cases it is incalculably higher. Better even than all this, it advances the well-being of its possessor. By virtue of his increased education, he commands higher wages for his services, and also adds largely to the common production.

"What a convincing argument is given in this report for our common school system. It *pays*, in the lowest as well as in the highest sense, to educate the people. According to the last census, 1,554,931 adult males were regarded as illiterate. If, now, according to the opinions before given, these parties should earn each one dollar per day in their illiterate state, by learning to read and write, twenty-five per cent. would be added yearly to the production of the country, or \$116,612,425, nearly twice as much as is paid annually for public instruction in the United States. If, now, we take four-fifths of the 8,287,043 engaged in various pursuits in the United States in 1860, who received their education in the common schools, considering each one as capable of earning one dollar per day without such education, and \$1.25 with it, we have a yearly addition to the production of the country of \$523,740,178, nearly nine times the amount paid annually for public school instruction. Then consider what the increased production would be if specific instruction were given to these persons in the different branches of industry represented by them, or if, in early life, studies were pursued bearing directly upon their vocation. The instruction that these men need, in the main, is in the facts and truths of natural science, for these lie at the foundation of the life-work of the vast majority of the producers of our country's wealth. These sciences must be studied if our nation would attain the exalted destiny which clearly awaits it."—*Pennsylvania School Journal.*

5. EDUCATIONAL WORK IN ENGLAND.

Notwithstanding the wranglings between the party represented by the Birmingham League and that which has for its head the quasi-defunct National Union, practical progress has been made of late towards the more general education of the English people. Statistics go to show that more children are now attending schools than formerly, that the supply of teachers has been increased by placing before them better opportunities for advancement, and that the education afforded is of a more thorough character than that which had hitherto prevailed.

Elementary instruction in England and Wales is provided, first, by schools receiving Government grants according to the work they accomplish; and second, by schools under the charge of School Boards, established under the provisions of the Elementary Education Act. It is to the former that the credit is due of having given for many years tolerably good elementary training to a large proportion of the children of the poorer classes in a remarkably quiet way, and it is not, therefore, surprising that a large body of the public should feel gratified at knowing that the fears of their promoters, that the Education Act would terminate their existence, have proved groundless. Instead of declining in interest, those denominational schools receiving grants and under Government inspection appear to have become increasingly flourishing since the Birmingham League undertook its mission in favour of secular instruction. This is proved by the facts, that during the past four years the accommodation provided by these schools had risen from eight to ten per cent. of the population, and that the average attendance during this period increased from five to over six per cent., representing two million names on the school registers. The figures are these:—11,833 day schools, with 2,235,936 children on their registers, having accommodation for about 225,000 more; and 2,122 night schools, attended by 75,000 children over twelve years of age. The average attendance at the elementary schools of England and Wales should, however, be about three millions, and the accommodation ought to be in excess of this number. The supply afforded by schools in receipt of annual aid is little more than room for two millions and a quarter, sufficient it is true to accommodate the number of children on the books, which of course vastly exceeds the number actually in attendance, but considerably within what will be required within the next two or three years.

The second class of educational machinery, the schools under the direction of School Boards, is actively engaged in supplying educational deficiencies in special districts. The population under School Boards, the establishing of which rests primarily with the people, is about ten millions, including the metropolis, and the number of Boards elected is placed at about six hundred. That a great work has been done within the past few years towards meeting the educational wants of the country, is seen by an official declaration to the effect that 3,465 parishes possess sufficient faci-

ties for their educational work, even though a larger number are reported as being deficient in these respects. These latter, however, are largely situated in outside districts, and can best be dealt with by forming them into united districts, as contemplated by the Department of Education. The School Boards have now got fairly to work, and are evidently resolved to provide the requisite number of schools for all the children of school age, at the risk of largely increasing the local rates. They are availing themselves freely of their borrowing powers. London has raised loans amounting to £250,000 wherewith to meet in part the cost of providing for 100,600 children; and the Education Department have recommended the Public Works Loan Commissioners to advance more than three hundred loans, exceeding a million pounds sterling, by which accommodation will be furnished for one hundred thousand children. Compulsory attendance has been put in force by London, 80 municipal boroughs and 110 civil parishes, representing a population of 8,926,349. These figures show that compulsion is now the law for 39 per cent. of the whole population of England and Wales, and for about 74 per cent. of the total borough population. The exercise of these powers has been attended with the most satisfactory results. The increase of average attendance in Stockport has been 15 per cent., in Bath 17 per cent., in Wrexham 25 per cent., and in Manchester (in fifteen months) the weekly average has been 36 per cent. In London the increase of the average attendance has been 36,041 in the two years ending December last; in Sunderland the number on the rolls has increased 32 per cent., in Leeds 63 per cent.; while in Macclesfield, in the last week of March last, 94 per cent. of the children of school age were either at school or beneficially employed at work. In West Bromwich, in the year ending May last, there were 9,207 in public elementary schools alone, and only 776 children not at schools, the increase for the year being 3,000, or 25 per cent. of the whole school population.

These educational statistics are very gratifying, for they establish the fact that, notwithstanding the strife of religious factions, every British child has now a chance of receiving an elementary education. The truth is, that the more schools cover the land the less will be the talk about religious and theoretical difficulties, which have in the past done so much to retard the spread of education among the poorer classes in the United Kingdom.—*Montréal Gazette*.

IV. Papers on School Architecture.

IMPROVED SCHOOL-HOUSE ARCHITECTURE.

In this number of the *Journal* we are enabled to present several valuable illustrations relating to plans of school out-houses. These plans have been recently prescribed by the Provincial Board of Education for New Brunswick, for use by the School Trustees in that Province. They have been kindly furnished to the Ontario Education Department by Theodore H. Rand, Esq., Chief Superintendent of Education for New Brunswick.

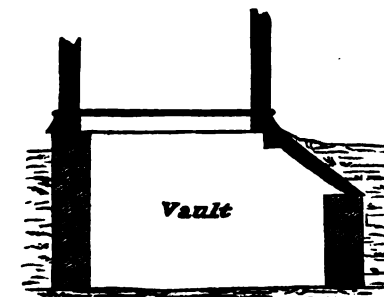
As our regulations require that the School Trustees shall provide out-houses somewhat of the description given in the illustrations, it is hoped that the Trustees will not hesitate to avail themselves of the plans and illustrations now given. They are drawn on the scale of 8 feet to the inch and are accompanied with specifications, as follows:

THE OUT-HOUSES.

EXCAVATIONS.—The vault to be excavated 5 feet deep below the surface of ground, and to be made 4 feet longer than the building;

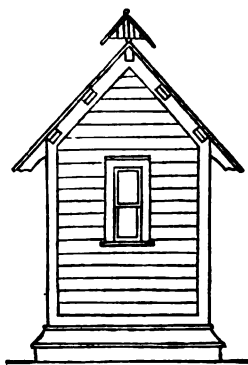
this projection of 4 feet to be made at the gable end, opposite to or at one side of the door.

WALLS, &c.—Build rubble stone walls under three sides of the building one foot above the surface of ground, to receive the sills; the side and end walls projecting beyond the building to be built only 3 feet high from the bottom of vault, and the space to be covered with 3-inch plank laid sloping, and secured at the foot to a plate

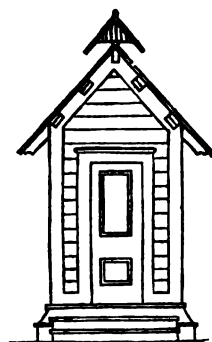


Section thro Vault

laid on the low wall, and at the top to a 3-inch piece, supported at the ends on the side-walls; these planks to be so secured in place that they can be readily removed for the purpose of cleaning the vault, and to be covered over with earth, sloping from the building to shed the rain.



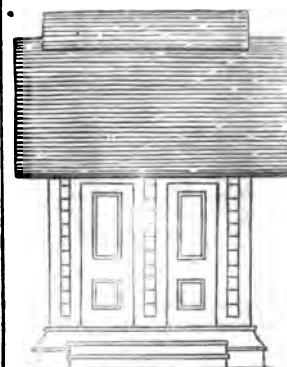
End Elevation
(BOYS')



End Elevation
(GIRLS')

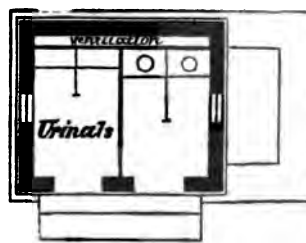
FRAMING, &c.—The frame to be boarded with sound boards, and covered with rough siding or shingles; the roof to be shingled; the ridge of roof to be left with an open space of 6 inches for the escape of foul air, and this opening to be protected from the weather by a saddle with a flat soffit, and closed at the ends and supported on board brackets. The smaller class of houses both for the boys and for the girls, and the larger class for girls, to have a clear space of 4 inches left at the back of seats for ventilation; this space to have free connection with the vault and with the opening in ridge of roof; the larger class of houses for boys to have this space for ventilation in the centre of the building.

The sills to be set in the centre of the stone walls, and the water-table to be sloped to cover the projecting wall.

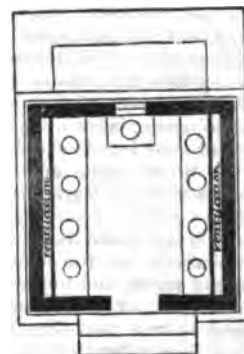


Front Elevation
(BOYS')

The floors to be laid double.

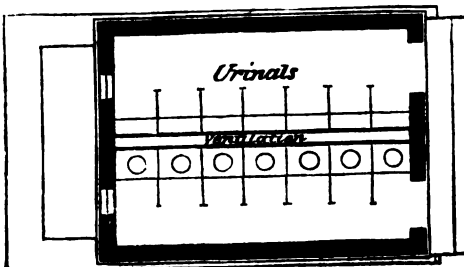


Boys'

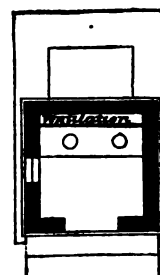


Girls'

The smaller class of houses for boys to be divided by a partition, made of 1½-inch tongued-and-grooved plank, not planed; one side of the houses for boys to be fitted up with seats with hinged flaps, hung with butts, and a sloping plank to be fixed above the seats to prevent the flaps from being opened beyond an angle of sixty



Boys'



Girls'

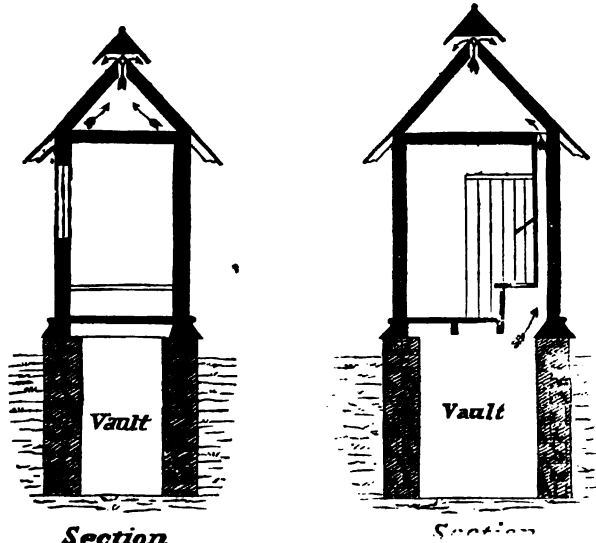
degrees, the other side to be fitted up with a trough, set with a sufficient incline to carry off the water, and to have a down pipe leading into the vault. The seats and the trough to be divided into stalls by tongued and grooved boards 6 feet high.

The houses for girls to be fitted up with seats with hinged flaps.

The doors to be panelled, hung with butts, and supplied with mortice or rim lock, with mineral knobs.

The windows to have 2-inch sills and 1½-inch casings, and 1½-inch sashes, glazed with two panes 10-inch by 16-inch glass.

The interior walls and ceilings to have one thick coat of coarse brown mortar.



All the wood work usually painted to have three coats of paint, and to be sanded with coarse sand on the last coat, to prevent scribbling.

V. Papers on Practical Education.

SOME POINTS FOR YOUNG TEACHERS.—Somewhat personal. 1st. Do not wait for your pupils to be courteous to you. You are teacher of this particular as much as you are of arithmetic. Always set the example of politeness by bowing and speaking first. 2nd. Come into your school-house with muddy feet—and your pupils will do likewise. 3rd. Retain your hat upon your head while in your school-room, also whistle or indulge in other thoughtless noises—and your pupils will do likewise. 4th. Treat your female pupils with brusqueness and uncourteous inattention—and your male pupils will do more than likewise. 5th. Tilt back your chair and place your feet upon the table—and your pupils will do likewise. 6th. Never clean your teeth; also, use tobacco freely—and your pupils will only too soon emulate you in dirtiness of mouth, filthiness of habit, and foulness of breath. 7th. Do not hesitate to spit upon the floor—then your pupils will not hesitate. 8th. Do not clean or trim your finger nails—then your pupils may not think there is anything slovenly in long and dirty nails. 9th. Continually “hem,” and hawk, and expectorate—so that your pupils may acquire the same pleasant habit. 10th. Care very little for personal cleanliness—and your pupils will care less.—*National Normal.*

A NEW THOUGHT FOR EDUCATORS.—In one of our large Western cities, I came a few weeks ago upon a unique school, illustrative of the desire to do something that is becoming so distinguishing a characteristic of the woman of the period. Three wealthy and accomplished women, leaders in society, came to the conclusion that they could give their children better instruction than they were receiving at the schools, and determined to try the experiment. Living in the same block, the matter was easily arranged. Reception-room in house No. one became a school-room, and its mistress a teacher from 9 till half-past 10, of number two from half-past 10 till 12, of number three from 2 till half-past 3 o'clock. Each taught those branches in which she was a proficient; the interest of the pupils was unflagging, and their progress wonderful. The experiment at the time of my visit was nearly six months old, and no signs of waning enthusiasm had manifested themselves on the part of teachers or pupils; it was in every sense of the word a success.—*Anonymous.*

VI. Papers on Boys and Girls.

1. A MOTTO FOR BOYS.

A boy who does a stroke and stops,
Will ne'er a great man be;
'Tis the aggregate of single drops
That makes the sea the sea.

The mountain was not, at its birth,
A mountain, so to speak;
The little atoms of sand and earth
Have made its peak a peak.

Not all at once the morning streams,
The gold above the gray;
'Tis thousand little yellow gleams
That make the day the day.

Not from the snowdrift May awakes,
In purples, reds, and greens;
Spring's whole bright retinue it takes
To make her queen of queens.

Upon the orchard rain must fall,
And soak from branch to root,
And blossoms bloom and fade withal,
Before the fruit is fruit.

The farmer needs must sow and till,
And wait the wheaten bread,
Then cradle, thresh, and go to mill,
Before the bread is bread.

Swift heels may get the early shout,
But spite of all the din,
It is the patient holding out
That makes the winner win.

Make this your motto, then, at start,
'Twill help to smooth the way,
And steady up both hand and heart—
“Rome wasn't built in a day!”

2. OUR BOYS.

Dio Lewis has written a work for “Our Girls,” and numerous others have criticized the “Girls of the Period;” but no one, to my knowledge, has yet told us what to do with our boys.

All the way from the cradle up to womanhood, a girl seems to fall naturally into her place, or the place assigned her, and never appears to feel awkward or in the way. But there is a period in the life of a boy, when neither he, his guardian, or friends, know where he belongs, nor how he should be treated. A girl glides naturally along from childhood to womanhood, and sometimes in this fast age so rapidly, that you almost conclude that the period of girlhood is left out entirely. With boys it is very different. There is a time in a boy's life when he seems to feel that he is out of place everywhere. And at this very time, when he needs sympathy the most, as a rule he gets the least of it. He is too big to be petted like a baby, and not large enough to be treated as a man. He is too boisterous to be in the parlour; the cook sends him out of the kitchen, because he asks too many questions; the father is too much engrossed in business to notice him or give employment or direction to his active, inquiring mind; the mother is too busy, preparing dainties for his stomach, or flounders for his sister's dress, to pay much attention to her son's brain or heart, and, as a natural consequence, he goes into the street. The education he receives there is soon made manifest.

To me, there comes a question, deep and momentous: “What shall I do to save my boy from the snarls that are laid for his feet?”

One thing I have determined on, and that is, I will never knowingly, by word or deed, cause him to feel that he is in my way, in the house he calls home. Not even though my carpets be soiled by muddy boots, and my best furniture marred by finger marks. It were better that my carpets be soiled and worn, and my best furniture be scratched or broken, than that the immortal soul which God has entrusted to my keeping should become scarred and mired by the vileness which is found in our streets and public places of resort. Soiled and worn furniture may be repaired or replaced by new; but the soul once scarred and disfigured by sin can never be what it might have been, had it been shielded a little more carefully during these few years of youth when it was so pliable to every touch.—*Central Advocate.*

3. AMBITIOUS BOYS.

There are thousands of boys born into the world possessing scarcely a trace of ambition. Such do not care for distinction, or even for wealth; if they can procure the humblest fare, by constant toil, the

aspirations of their boyhood, and subsequently of their manhood, are fully met. They are negative characters, happy with nothing, and suffer no elation or depression, whether in sunshine or under a cloud. These boys, who often afford much mortification to ambitious parents, fill a most important niche in the world; in fact, the world could not do without them. They constitute the great army of men who build our railroads, tunnel our mountains, load and unload our ships, cut down our forests, and manipulate the red-hot iron masses which come from our blast furnaces. Scold and fret as we may, we cannot alter the temperament or proclivities in such boys. Nature is stronger than we are, and well it is for us that this is so. If our boys are born to live in subordinate or humble positions we can hardly help it; we may hold them in a false position by the power of wealth, or strong controlling influences; but when these fail, they fall at once in their place, in obedience to a law as irresistible as that which Newton discovered in the fall of the apple.

4. MANAGEMENT OF BAD BOYS.

To the Editor of the Journal of Education.

The goodness or badness of boys or men depends upon the standard of comparison. If this standard is low, we have few bad boys and bad men; if it is lowered, so as to license an extension of indulgence, we should have less bad people; and if we do away with standards of morality, we should have no bad people at all.

Christianity is a high standard of morality; we know it is high, because few, if any, can reach it. Experience proves that it imposes no restraint but what a well-regulated society needs, even if Christianity had never been known.

Now, as Nature works on the *free will* principle, but brings on her penalties afterwards, experience shows that, to avoid her penalties, restraint must be used. As restraint is unpleasant, and since order depends on it, then, order at first is unpleasant; and no one will give up a present pleasure without prospect of a better, or prospect of pain for refusal to desist. For order, many expedients are employed: among these love, moral suasion, bribe, and last of all, fear are used. Which one of these is employed, depends somewhat on the temper of the teacher himself, and a little on that of the neighbourhood. Loving teachers can think of nothing but *love* to govern bad boys with. I shall therefore examine this agent.

Suppose that, on entering a new school I choose love as my means of order. Is this emotion latent within me, so that I can apply it as soon as I see a necessity for it? or, must I wait on the good actions of others to stir it up in me? I am now looking up an illustration.

The man whom I met daily and for many months, on a street in Toronto, I neither loved nor hated. But one day, I went to have a sail on the bay; after a little a storm arose, and I was in jeopardy; meanwhile a crowd gathered on shore to watch my distress; finally, the boat upset, and I was on the point of drowning. One, only, of the crowd would risk his life to save mine; when he had brought me to shore, and I had regained sensibility, I asked who saved me; when he was pointed out to me, I remembered I had met him so often; need anyone advise me to love this man?

Suppose that, instead of the wind, someone had *pushed* me overboard; need anyone tell me to *hate* that man? What made the man save me? Was it love or duty? It was duty; for, even if he had known me to be the one he had met so often, he was just like myself, he neither loved nor hated me; duty, then, in another may stir my love for him, but my own duty can never stir my own love. If families and societies, at the point of separation, for want of love to bind them together, could create it by a piece of advice, they would never separate; for there is nothing of which men (lawyers excepted) are more liberal than of their advice. If then, in order to rule my bad boys by love, I must wait till they do something to make me love them, does not the whole affair depend on the action of bad boys? If they can stir my love by good deeds, they can govern themselves; viz., bad boys are good boys. Love, on account of its reciprocal action, would rule any creature sweetly, provided we had it to work with; but, the stirring up of a person's love is not his own act, but the act of another; and no man can tell to-day whom he shall love or hate to-morrow.

JOHN IRELAND, Teacher,
No. 6, Pilkington.

5. SLEEP FOR GIRL PUPILS.

Good scholars need more sleep than they are inclined to take. The interest in lessons, the increased activity of the brain, makes them wakeful, and often the more they need sleep, the less able are they to find "the dominions of the drowsy god."

In the majority of our large schools I find the hour of retiring to be 10 o'clock, and of rising at 6 o'clock. This will do for some, but the younger and more sensitive need from 9 to 7 in winter and from 9 to 6 in summer. I would give the man an hour longer during the long nights, because at best students study more by artificial light than their eyes can well endure. In cold weather they are more inclined to keep close to books, less inclined to out-door exercise, and hence are better off in bed cold mornings than anywhere else. The indications of all nature are that at this season we should sleep up, rest up, and be ready for summer gaieties. But in modern days, between bright lights, gay colours, lectures, concerts, and parties of varying brilliancy, the brain and optic nerve are over stimulated, and summer finds too many of our young ladies, whether in school or in social life, in need of summer restoratives, such as the sea-side, the mountains, and mineral springs afford. Students do not get as much sleep as their hours in bed seem to indicate. If they have studied closely and to advantage in the evening, it takes some time to arrest the mental action, to cool off head-wise, so to speak. Intellectual activity makes them dislike to retire at night, and brain weariness makes them dread to rise in the morning, and they get up feeling wretched, and as if they *never did and never could* learn anything. Hence, while they might retire before the required time, they do not want to, and would not get any sleep if they did, while the school world in which they are so much interested is all astir. When once asleep, they go on until a late hour if not called by duty, as is shown by the many who sleep over the breakfast hour, and go without that meal if not obliged to rise at an early hour for morning prayers. Instead of giving a general permission to retire early, and requiring all to rise early, we would reverse the order, and require all to retire early, and let them rise when they had slept all they wanted to.

6. CARE OF THE PUPILS' EYES.

Trouble with eyes is becoming very common among our pupils in advanced classes. The normal eye is capable of an almost infinite variety of uses. It can see near and far with equal facility, but like any other organ, if used almost exclusively in one direction, it loses its range of ability. Hence if kept too constantly on the printed page, the range of vision is impaired, and it may become near-sighted by much reading of fine print.

We have long known that the eye is often injured by looking at the sun, in case of an eclipse, without the aid of smoked glass, the perceptive power being impaired by excess of light and heat. It is also often injured by looking at small objects with too little light, as for instance, reading fine print by moonlight. But we are yet to fully realize how often the eyes are injured by strong gas-light. It is often too intense, and has a flicker which is particularly trying without a shade. Those accustomed to gas or kerosene, find it difficult to see by candles or any light less brilliant. But those who have habitually used candles, can not only see well with less light, but their eyes last longer without the aid of glasses than those who have rejoiced in the flood of light which the gas-burner emits.

When the optic nerve has become supersensitive to light, a good candle is a great relief. Of course, it will not make the room bright as gas or kerosene, but will furnish light enough for reading, and the soft light will be much less trying to the eye.

Twilight is very grateful to the eye, if we rest in it, but very trying if we read or sew in the transition stage from day to night, or night to day. The use of artificial light at early morning is very bad for the eyes, much more so than at evening. To go from sound sleep and deep darkness into the light of gas, especially for study or piano practice, is very injurious.

Within a few weeks several young ladies have consulted me in regard to their eyes, where they have been seriously and permanently injured by piano practice at early morning in the gas-light. As the music cannot be changed to suit the exact focus of the eye, it is the more likely to become injured in this way, than in most other ways.

The study of any foreign language is much more trying to the eye than the reading of one's own. The words lack the familiar look, and hence they are not so easily recognized. The searching for words in the dictionary is particularly hard for the eye, and if the alphabet be dissimilar to ours it is still more trying. Hence those who have weak eyes, and those who don't want to have them, should avoid piano practice and lexicons by artificial light, especially at early morning. Those whose eyes are in any degree sensitive will accomplish more in the week or month to study only by daylight, and during the evening avoid gas and give themselves up to plain knitting and cheerful conversation; for deep study, close thought even, if the eye is not used, tends to determine the blood to the head, and makes the eye worse if it be inflamed or painful. Em-

broidery, or even any kind of worsted work, is bad, as bright colours tax sensitive eyes very seriously.

Reading from a moving page is also trying to the eyes. Many persons who have travelled much, tell me they have permanently impaired their sight by reading on the cars. Young ladies who go out to walk with a book cheat themselves in two ways. The exercise they get is not good for anything, and the moving page and the brighter light than within doors, injures the eye. To make bodily exercise profitable, the brain must rest from books, and send its nervous and circulatory force into the muscular system—*Mrs. Gleason*.

7. CHILDREN'S RIGHTS.

"According to the last census there are in the United States five millions of children, of school age, who never attend school."

Children come into the world with certain rights which society is bound to respect. Besides the traditional claim to life, liberty, and the pursuit of happiness, there is a recognition now of the right to the best means of perpetuating or attaining these, in the best knowledge, the most useful instruction which can be given to the child.

This is a matter of self-preservation for a country, for it is on the intelligence of the many, rather than the wisdom of the few, that it must place its dependence. Ignorance can support no form of government higher than the patriarchal, of which the tribe with its chieftain is the simplest type, and the empire with its arbitrary ruler the most magnificent.

But we have passed the patriarchal rule; even the father has no longer, as in the old Roman days, absolute control over the life of his child. The State steps in and protects the future citizen.

Just as much right has she to protect his moral and intellectual life. It is of far greater value to her than his mere physical existence, or power to wield a weapon in her behalf. The day has passed when it was necessary for the State to bring up every male child to the profession of arms; the day has come when she needs to arm every child with the best culture and the best morals that the most intelligent thought of the age can give.

No more than Sparta could afford to have a weak or diseased child grow to manhood or womanhood, can our country afford to have diseased or weakened minds among those that shall control her future destinies.

It would be idle to argue that culture in pure knowledge and the useful arts improves the mind and disposes it to morality and good citizenship. Even the habit of learning the self-control and steady attention, are in themselves a benefit.

We may admit all that can be said of scoundrels generally—forgers, for example, as a representative class, using the knowledge they have gained to the detriment of society. Yet we know that it was not knowledge that injured them. The evil would have shown itself in other directions had they not known how to write, and though knowledge may increase power for evil ten-fold, it strengthens the power for good a hundred-fold. It is a blunder, which is worse than a crime, for any town to be without ample school accommodation for all her children, and not less for her to take no charge of the young Arabs who infest her streets and alleys; those who are the idlers and vagabonds of the present, and the worst criminals of the future; those who have no home influence to help to keep them in the public schools, who are the truants, and finally the expelled ones, or those who never enter the schools. For them, at least, education should be made compulsory.

A truant or an industrial school should receive these young vagabonds, and develop a majority of them into useful citizens, instead of allowing the streets to train them for outlaws and criminals.

No duty could be more apparent and undeniable. If the State gives the ballot, she is bound to confer also the knowledge and good training which will make it beneficial, otherwise she is only arming her citizens against herself—providing her Saxon Modocs with fire-arms of the most approved pattern.

VII. Papers on Natural History.

1. NATURALISTS' CLUB, BELLEVILLE.

A meeting of gentlemen interested in the scientific pursuits was held in the Shire Hall last evening, T. C. Wallbridge, Esq., in the chair. It was resolved that the gentlemen present form themselves into a Naturalists' Club for the purpose of investigating the natural capability of the district; and the following gentlemen were appointed heads of the several departments comprehended in the scheme:—Geology and Mineralogy, Prof. J. T. Bell; Botany and Entomology, Prof. J. Macoun; Zoology—Mammalia, A. Dulmage;

Esq.; Ornithology, R. P. Jellett; Erpetology, Dr. Clapham; Ichthyology, Prof. Bell; Conchology, C. G. Hurst, Esq.; Meteorology, A. Burdon, Esq.; Topography, G. A. Simpson, Esq.; C. E.; Hydrography, J. D. Evans, Esq., C. E.; Antiquities and Traditions, T. C. Wallbridge, Esq. The above, together with the President, Vice-President, Treasurer and Secretaries compose the Council of the Club. Authentic information communicated by members or others will be recorded by the head of the department to which it properly belongs, and at the end of each year the records will be read by the Council, and such parts as they deem worthy of publication will be printed in the "Transactions," for distribution among the members, and will be forwarded to the Governmental Department and to the scientific societies of the Dominion and other countries. The members, including ladies, will make an annual excursion to some locality of interest, when addresses and explanations will be given by members. The following gentlemen were appointed officers for the present year: President, Prof. J. T. Bell; Vice-President, T. C. Wallbridge, Esq.; Treasurer, Thos. Wills, Esq.; Corresponding Secretary, W. J. Diamond, Esq.; Recording Secretary, W. McKeown, Esq. The subscription is one dollar per annum. The club numbers fifty members, and we hope it will establish a permanent record, and that its labours may redound to the advancement of science, the credit of the country and the advantage of this district, and on this ground we recommend it to the favourable regard of our readers and the community at large.—*Intelligencer*.

2. FOOD OF CANADIAN BIRDS.

There exists a general and unfounded prejudice in agricultural communities against many of our most beautiful and useful birds, which we should like to remove if possible.

Nearly all the birds that frequent our orchards and nurseries are insectivorous, and well deserve the kind protection of the farmer and gardener. The services of our pretty and familiar friend the Robin are invaluable, and the ill feeling manifested towards this bird is quite unaccountable. The food of the Robin consists almost exclusively of grubs, earthworms and those subterranean caterpillars or cut-worms that come out of the earth to take their food; all these and many others are devoured by the Robin, and if he should occasionally taste a cherry or a plum, surely the general interests of agriculture are of more importance than a few cherries. During the breeding season a pair of Robins will destroy myriads of noxious insects; and as the Robin raises two and sometimes three broods in a season, the service he renders the agriculturist in ridding the soil of grubs and worms that would destroy his crops, certainly entitles this bird to more merciful treatment than it usually receives.

The elegant Cedar-bird is also another innocent victim of unfounded prejudice. This bird rarely touches fruit of any kind, unless it contains a worm or the larvæ of some noxious insect. Its food consists principally of caterpillars, beetles, and the canker worms that infest the fruit trees.

The brilliant Oriole or Golden Robin, the gaudy Scarlet Tanager or Redbird, love to build their nests and raise their young in the trees of the orchard, because there they find their food, which consists almost exclusively of caterpillars and the larvæ of insects. Our beautiful singers, the Thrushes, destroy nearly all kinds of grubs, caterpillars, and worms that live upon the greensward or cultivated soil. The Catbird, that charms the ear with its rich and varied notes, seldom ever tastes fruit, but feeds upon insects of various kinds. The beautiful warblers pursue their insect-destroying labours from early morn till night; the active Flycatchers capture the winged insects; the Bluebird, that loves to dwell near the haunts of man, feeds upon spiders and caterpillars; the Woodpeckers, Nuthatches, Titmice, Wrens and Creepers, feed upon the larvæ of insects deposited in the bark of trees; the Swallows and Martins feed entirely upon winged insects; the Yellow-bird and the Sparrows feed upon small insects and the seeds of grass and various weeds; the food of the Meadow Lark and the cheerful Bobolink consists of the larvæ of various insects, as well as beetles, grasshoppers, cutworms, and crickets, of which they destroy immense numbers.—*Canadian Ornithologist*.

3. CLASSIFICATION OF CANADIAN BIRDS.

Ornithologists have already classified seven hundred and eight different species of birds as belonging to North America, of which over three hundred are regular Canadian summer visitors, a few species only remaining with us during the winter.

Our birds may properly be divided into six Orders, as follows: Order I.—The Birds of Prey, includes the Eagles, Falcons, Hawks,

Buzzards and Owls. Order II.—The Climbing Birds, includes the Cuckoos, Woodpeckers, Nuthatches, and Creepers. Order III.—Perching Birds. This Order embraces the greatest number of species, and includes the Robins, Sparrows, Thrushes, Orioles, Flycatchers, Warblers, Swallows, Wrens, Crows, Jays, etc., etc. Order IV.—Scratchers, includes the Doves, Partridges, Grouse, and Turkeys. Order V.—Waders, embraces the Snipe, Sandpipers, Plovers, Cranes, Herons, Bitterns, and Coots. Order VI.—Swimmers, includes the Geese, Ducks, Swans, Mergansers, and all swimmers or web-footed birds.—*Canadian Ornithologist*.

VIII. Biographical Sketches.

1. MR. WILLIAM NILES.

The subject of this brief sketch was born in the year 1799 in Albany County, N. Y. He came to Canada in 1820, and settled in the Township of Dorchester, in the present Village of Putnamville, and afterwards in the neighbourhood of the present Nilestown, which was named after him, and entered into the farming and lumbering business, which he conducted successfully. He took an active part in political and municipal life, and was the first warden of Middlesex, which then included Elgin, elected by the people. Prior to his election, the wardens were appointed by the Governor-General, and with such fidelity and ability did he fulfil the trust reposed in him, that he was re-elected to the position for eight consecutive years. In 1854 he was elected to represent East Middlesex in Parliament in the Liberal interest, and at the expiration of his term, did not offer for re-election. He also held the commission of a lieutenant-colonel in the militia, was elected to the position of Vice-President of the Provincial Agricultural Association for one year, but did not aspire to the presidency. During his term of office as warden, Mr. Niles held the office of Great Western Railway Director, and took great interest in pushing forward the enterprise. Gifted with a strong physical constitution, and of much natural ability, the deceased was just the man to succeed in a new country. His every energy was directed to accomplish "the thing he willed and bear it through." He was one of the most active promoters of the Agricultural Mutual Assurance Association of Canada, and at his death held the position of inspector of agencies of this successful enterprise.—*London Herald*.

2. WM. MANN, ESQ.

Mr. Mann was a native of the County of Devon, in England, and came to Canada in May, 1832. Settling himself in this northern country, he made Kempenfeldt his home, in which place he prospered very well, and was the original founder of the Kempenfeldt road, which now connects with the, at that time, great Government road running directly north from Toronto to Penetanguishene. Mr. Mann subsequently built a brewery at Newmarket, we believe, which was rented by the present Mayor of Barrie, and was, during his occupancy, burned down. He afterwards built what was known as the East India House, where he carried on a general stationery business. These premises were also, years after, doomed to the flames, and Mr. Mann removed to the front street, where he carried on a business which has descended to his family. He died at the ripe age of 77 years—overstepping by a few years the Psalmist's maximum of life, "three score years and ten," and after that period in the case of our departed townsman, it may be said the balance of his life was labour and sorrow.—*Northern Advance*.

3. MR. RICHARD HOUSTON.

Mr. Houston was born in the County of Down, near Belfast, North of Ireland, on the 24th day of June, 1817. When quite a young man, he emigrated to the United States in the year 1831, settling at Rochester in the capacity of school teacher. In the following year, however, he moved to Canada, taking up his residence in the County of Halton, near Hamilton, where he remained until 1837, or just before the outbreak of the rebellion of that year, when he removed to the Township of Chatham, in the County of Kent, soon after which he joined the 5th Kent Militia, holding the rank of sergeant, from which he was promoted to be 1st lieutenant. He was at the capture of the schooner *Ann*, at Windsor, having been the third person to board that vessel. At the time of the *Trent* affair he received his commission as captain, which rank he held till the time of his death. In the first year of the passing of the Municipal Act he was elected Clerk of the Township of Chatham, the duties of which office he efficiently and satisfactorily performed, as well as those of the responsible office of

Treasurer for a period of twenty years, and resigned both offices only on the occasion of his leaving Ontario for the new Province of Manitoba, in the spring of 1872. The appearance of things in the Far West not coming up to his expectations, he returned from Manitoba in the fall of the same year, and bought the Currie Farm, near Dresden, one of the finest in the county, where he wished to pass the remainder of his days, but it was ordered otherwise.—*Chatham Planet*.

4. LIEUT.-COLONEL LEMOINE

Colonel W. H. Lemoine, who has just died at Sillery, at the age of eighty-seven, was one of the veterans of 1812; and was the youngest of three brothers, who, in 1787, along with their parents, left this city to reside in Quebec. The eldest, Louis, died in 1851; Benjamin, his other brother, was the father of Mr. B. H. Lemoine, of the Banque du Peuple; of Mr. J. M. Lemoine, well known in Canadian literature; and of the Rev. Geo. Lemoine, Almoner of the Ursuline Nuns of Quebec. The deceased served during the war of 1812, and afterwards established himself at Chateau Richer. Jean Lemoine, the ancestor of these gentlemen, belonged to the establishment of the Archbishop of Rouen, and came to Canada in 1660. One of his descendants, J. B. Lemoine, the father of W. H. Lemoine, established himself in Montreal on the site now occupied by the Normal School, in Notre Dame Street. He was one of the principal contractors of the English army in the American Revolutionary war, and is favourably mentioned by several memoir writers of that period. During an expedition he was taken a prisoner by the Americans, and in a long march to New York contracted a malady which made him ever afterwards an invalid. His affairs suffered too, and he eventually retired to his lands at Lake St. Francis, and at length established himself at Quebec. It is somewhat remarkable that Mr. W. H. Lemoine had, during his last years, come to reside at Sillery, the spot where his ancestors had dwelt two hundred years ago.

IX. Papers on Physical Science.

1. THE PAST AND FUTURE OF NIAGARA.

Niagara Falls furnishes one of the most interesting of geological problems. The last number of the *Popular Science Monthly* presents the question in a form which is readily understood. There is no doubt that the falls are slowly receding, and men of science tell us that within about 74,000 years they have gone from Lewiston to their present position. They recede about six inches each year, although old citizens think it is as much as a yard annually. The rate has undoubtedly varied with the hardness of the rock. The great lakes which have their outlet by Niagara River contain 9,800 cubic miles of water, or about half the fresh water on the globe. Eighteen million cubic feet of water go over the falls every minute of time, so that it is estimated that all the water of the lakes makes a circuit of Niagara, St. Lawrence, and the ocean, once in 152 years. Man has robbed Niagara of 52,000 cubic feet of water per minute, belonging to it of old, by means of the Erie, Welland, and Illinois river canals. By means of terraces, denudation of rock, traces of glaciers, etc., the age of the river is traced, and thought to be 175,000 years, a period in the calculations of geologists but short. They were puzzled to account for the fact that through this comparatively new geological area the outlet for one of the oldest areas should be found. But this problem is rapidly being solved by fresh discoveries of the ancient life of the seas in the limestones through which Niagara is now wearing its way. The conclusion to which scientific men are led in reference to the future is, that Niagara will eventually dwindle away into a succession of rapids and cascades. But for the sake of those unfortunates who have not visited Niagara, the geologists are pleased to say, that many thousands of years must elapse before the end is reached.—*Connecticut School Journal*.

2. A LAND OF STORMS.

The States of Minnesota and Iowa are rapidly becoming famous the world over for the violence of their storms. The snow storms that prevailed in the former State last winter were almost unparalleled in severity, and attracted much attention in England, where emigration parties were in process of organization for that State. Iowa, the neighbouring State, has within the past few days been visited by a tornado which destroyed both life and property. A full page of the *Chicago Tribune* is devoted to an account of the disaster. Fifteen persons were killed and thirty-three seriously injured, and the loss of property is placed at one hundred thousand

dollars. It was a desperately savage storm. The storm cloud, which seems to have resembled a waterspout, passed through Washington County at a speed of twenty miles an hour, levelling for many miles all barns and houses within a quarter of a mile of its centre. It sawed great trees in two, or twisted them smoothly apart as if they had been sawn. A reporter says it tore a woman asunder. Her head and neck were wrenched off; her body found in one place, her arms in others; one leg was found sticking in the sand. The top of her child's head was blown off. Chickens were found dead literally stripped of their feathers. Houses were lifted from their foundations, sometimes dropping the people through into the cellar, generally carrying them off and killing or wounding them in the crash. Those who saw the whirlwind coming and betook themselves to their cellars were saved. Those who were caught up and whirled about have no conception of the manner in which it was done. They were suddenly borne away and set down again, sometimes with and sometimes without injury; but so suddenly that they had no opportunity to exercise their consciousness. In some cases the clothing was stripped from them. A flock of fifteen hundred sheep, a reporter tells us, were carried up into the vortex and only forty remained alive. The hailstones were in reality blocks of ice. The incidents of the storm are of the most extraordinary kind. Now, during the present immigration season thousands of persons from England and European countries will land on our shores with the intention of proceeding to Iowa and Minnesota to become settlers on the wild lands of the West. To such it may be worth while to point out that the climate of the North-Western States of the Union is of terrible severity; that Minnesota and Iowa are swept by storms which carry destruction and death into the new settlements and lead the immigrant to despair of building for himself a comfortable home; and that Manitoba, the prairie Province of the Dominion, is not only exempt from such disastrous storms, but equally eligible as a field for a large European immigration. The climate of Canada, moreover, according to the best authorities, is generally less severe than that of the North West States of the adjacent Republic—a fact which only requires to be more widely known to lead immigrants to try their fortune in this New Dominion, before leaving British soil to settle in Minnesota or its neighbouring States in the American Republic. Let the immigrants who land on our shores give Canada a fair trial, and they will not easily be induced to leave her borders.—*Montreal Gazette.*

XI. Miscellaneous.

1. CANADA TO THE LAUREATE.

(From Good Words.)

"And that true north, whereof we lately heard
A strain to shame us, 'Keep you to yourselves;
So loyal is too costly! friends, your love
Is but a burden; loose the bond and go.'
Is this the tone of Empire?"

TENNYSON'S last Ode to the Queen.

We thank thee, Laureate, for thy kindly words,
Spoken for us to her to whom we look
With loyal love across the misty sea;
Thy noble words, whose generous tone may shame
The cold and heartless strain that said "Begone,
We want your love no longer; all our aim
Is riches—that your love can not increase!"
Fain would we tell them that we do not seek
To hang dependant like a helpless brood
That, selfish, drag a weary mother down;
For we have British hearts and British blood,
That leaps up, eager, when the danger calls!
Once and again our sons have sprung to arms,
To fight in Britain's quarrel, *not our own*,
And drive the covetous invader back,
Who would not let us, peaceful, keep our own;
So we had cast the *British* name away.
Canadian blood has dyed Canadian soil,
For Britain's honour that we deemed our own;
Nor do we ask but for the right to keep
Unbroken, still, the cherished filial tie
That binds us to the distant sea-girt isle
Our fathers loved and taught their sons to love
As the dear home of freemen, brave and true.
And loving *honour* more than *ease* or *gold*!

Well do we love our own Canadian land,
Its breezy lakes, its rivers sweeping wide,
Past stately towns and peaceful villages,
'Mid banks begirt with forests to the sea;
Its tranquil homesteads and its lonely woods,

Where sighs the summer breeze through pine and fern.
But well we love, too, Britain's daisied meads,
Her primrose bordered lanes, her hedgerows sweet,
Her winding streams and foaming mountain beck,
Her purple mountains and her heathery braes,
And towers and ruins, ivy-crowned and grey,
Glistening with song and story as with dew;
Dear to our childhood's dreaming fancy, since
We heard of them from those whose hearts were sore
For home and country left, and left for aye,
That they might mould, in these our western wilds,
New Britains not unworthy of the old.

We hope to live a history of our own—
One worthy of the lineage that we claim;
Yet, as our past is but of yesterday,
We claim as ours, too, that long blazoned roll
Of noble deeds, that blind with golden links
The long dim centuries since King Arthur "passed;"
And we would thence an inspiration draw,
To make our unliving future still uphold
The high traditions of imperial power
That crowned our Britain queen on her white cliffs,
Stretching her sceptre o'er the gleaming waves,
Even beyond the sunset! There were some
Who helped to found our fair Canadian realm,
Who left their cherished homes, their earthly all,
In the fair borders that disowned her away,
Rather than sever the dear filial tie
That stretched so strong through all the tossing waves,
And came to hew out, in the trackless wild,
New homes where still the British flag should wave.
We would be worthy them and worthy thee,
Our old ideal Britain, generous, true—
The helper of the helpless. And, perchance,
Seeing thyself in our revering eyes
May keep thee worthier of thine ancient name
And power among the nations. Still we would
Believe in thee, and strive to make our land
A brighter gem to light the royal crown
Whose lustre is thy children's—is *our own*.

CANADENSIS.

2. REASONABLENESS OF PRAYER.

During the deliberations of the American Convention relative to the constitution of the United States, Dr. Franklin introduced a motion for prayers, with the following important observation:—"The small progress we have made after four or five weeks' close attendance, and our different sentiments on almost every question, is, methinks, a melancholy proof of the imperfection of the human understanding. We indeed seem to feel our own want of political wisdom, since we have been running all about in search of it. We have gone back to ancient history for models of government, and examined the different forms of those republics which, having been originally formed with the seeds of their own dissolution, now no longer exist; and we have viewed modern states all round Europe, but find none of their constitutions suitable to our circumstances. In this situation, groping as it were in the dark, to find political truth, and scarce able to distinguish it when presented to us, how has it happened that we have not hitherto once thought of humbly applying to the Father of Lights to illuminate our understandings! In the beginning of the contest with Britain, when we were sensible of danger, we had daily prayers in this room for the Divine protection; our prayers were heard, and they were graciously answered. All of us who were engaged in the struggle must have observed frequent instances of a superintending Providence in our favour. To that kind Providence we owe this happy opportunity of consulting in peace on the means of establishing our future national felicity. And have we now forgotten that powerful Friend? or do we imagine we need no longer His assistance? I have lived a long time, and the longer I live, the more convincing are the proofs of this truth, that "God governs in the affairs of men." And if a sparrow cannot fall to the ground without his notice, is it probable that an empire can rise without his aid? We have been assured in the sacred writings, that "Except the Lord build the house, they labour in vain that build." I firmly believe this; and I also believe, that without this concurring aid, we shall succeed in this political building no better than the builders of Babel; we shall be divided by our little partial local interests, our projects will be confounded and we ourselves shall become a reproach and a by-word down to future ages. I therefore beg leave to move—"That henceforth prayers, imploring the assistance of Heaven and its blessings upon our deliberations, be held in this assembly every morning before we proceed to business; and that one or more of the clergy of this city be requested to officiate in that service."

XII. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for July, 1873.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Belleville—J. B. Dixon, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—George Dickson, Esq., M.A.; Windsor—J. Johnston, Esq., B.A.

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a Where the clouds have contrary motions, the higher current is entered here.

b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Peterborough. 23rd, 27th. Lightning and thunder, with rain, 8th, 14th, 25th, 29th. Wind storm 23rd. Fog, 9th, 28th. Rain, 1st, 3rd, 4th, 9th, 11th, 15th, 17th, 18th, 19th, 26th, 29th. 31st. A terrific thunder storm at 17th from 1.50 p.m. for two hours—a few buildings struck. No other storms. Weather quite heavy.

Belleville. 1st. Lightning and thunder, with rain, 17th, 25th, 28th. Wind storms, 5th, 23rd. Rain, 4th, 10th, 11th, 17th, 25th, 28th, 29th, 31st. Crops much improved by the rain.

Goderich. 1st. Lightning and thunder, 24th. Lightning and thunder, with rain, 1st, 10th, 14th, 31st. Fog, 4th, 10th, 11th, 15th. Rain, 1st, 2nd, 3rd, 8th, 10th, 14th, 18th, 25th, 28th, 31st.

Stratford. 1st. Lightning and thunder, with rain, 1st, 17th, 25th, 28th. Frost, 11th. Wind storms, 2nd. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 18th, 19th, 26th, 29th, 31st.

Hamilton. 1st. Lightning and thunder, with rain, 1st, 17th, 25th, 28th. Frost, 11th. Wind storms, 2nd. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 18th, 19th, 26th, 29th, 31st.

Simcoe. 1st. Lightning and thunder, with rain, 1st, 17th, 25th, 28th. Frost, 11th. Wind storms, 2nd. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 18th, 19th, 26th, 29th, 31st.

Windsor. 1st. Lightning and thunder, with rain, 1st, 17th, 25th, 28th. Frost, 11th. Wind storms, 2nd. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 18th, 19th, 26th, 29th, 31st.

18th, 19th, 26th, 31st. Excess of mean temperature from average for July for twelve years + 0°51.

HAMILTON.—Lightning, 4th, 18th, 28th, 31st. Thunder, 29th. Lightning, with thunder, 2nd, 17th, 18th, 25th. Lightning, with rain, 4th, 18th, 28th, 30th. Thunder, with rain, 29th. Lightning and thunder, with rain, 2nd, 17th, 25th. Rain, 3rd, 4th, 7th, 10th, 17th, 26th, 31st.

SIMCOE.—Lightning, 13th. Lightning and thunder, with rain, 14th, 17th. Wind storms, 5th, 26th. Rain, 2nd, 3rd, 6th, 7th, 8th, 14th, 16th, 17th, 18th, 25th, 26th.

WINDSOR.—Lightning, 1st, 15th, 24th. Lightning and thunder, with rain, 3rd, 14th, 16th, 25th. Lunar halo, 4. Meteors as follows:—11th, one in S. towards S.W.; 21st, one through *Cassiopea* towards H.; 22nd, two in W. towards H.; 23rd, one in S.W. towards S.; 24th, one in S.E. towards S.; 26th, three seen; 29th, one through Sq. of *Pegasus* towards Z.; one through *Ursa Major* towards S. Wind storms, 3rd, 14th, 17th, 18th, 25th. Rain, 3rd, 9th, 14th, 16th, 17th, 25th, 28th, 31st. On 24th, about sunset, an aerolite passed over Windsor and the Detroit River from E. to W. It presented a luminous appearance, and was just above the lower strata of clouds.

XII. Departmental Notices.

THE PUBLIC SCHOOL GENERAL REGISTER.

The General Register for use in the Public Schools of Ontario, as required by the Official Regulations, is now ready and can be supplied to schools on the following terms, viz:

No. 1. Copy of 20 pages, paper covers, free by post	35 cts.
2. do 40 do stiff cover, cloth backs...	45 "
3. do 60 do do do do	65 "

NOTE.—As Number 2 and 3 above, 40 and 60 pages each, have a stiff cover, they cannot be sent by post, but may be ordered by Express from the Department or through any bookseller, from Messrs. Copp, Clark & Co., Wholesale Booksellers, Toronto.

PUPILS DAILY, WEEKLY AND MONTHLY REPORTS.

In preparation a series of daily, weekly and monthly reports for pupils of the Public Schools. Particulars shortly.

SUGGESTIONS TO CORRESPONDENTS OF THE DEPARTMENT.

1. Letters should be addressed to the "Education Office," or "Education Department," and not to the "Normal School," which is a Branch of the Department, having its own letter-box at the Post Office.

2. Application for Maps, Apparatus, Prize or Library Books should (as stated on the face of them) be accompanied with the remittance named in the application. It should not be enclosed in a separate envelope, unless the fact is specially noted on the application. Very often the application (stating that a certain sum is enclosed) comes in one envelope and the money in another. This discrepancy should not occur without an explanation being given in the letter. The Post Office authorities do not now allow the form of application filled up to pass through the post as printed matter.

3. The name of the Post Office of the writer, or School Section, should invariably be mentioned in the letter. Frequently letters are received without either the date or post office being given in them.

4. Letters are often posted and registered at one office, while another one is mentioned in the letters themselves. This fact should be noted in the letter by the writer, otherwise the discrepancy causes confusion and inconvenience in the letter registry of money receipts.

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THE PUBLIC SCHOOL LAW FULLY EXPLAINED.

The Publishers (Copp, Clark & Co., King St., Toronto) beg to announce that they have just published a full Exposition of the School Law of this Province, the Official Regulations and Decisions of the Superior Courts, by Dr. Hodgins, Deputy Superintendent of Education, in a three-fold form as follows;

PART I.—RURAL SCHOOLS.

Lectures on the School Law of Ontario, and regulations relating to:

1. Rural School Trustees.
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Being the subjects of examination prescribed for Teachers' Second and Third Class Certificates of Qualification.

PART II.—MUNICIPAL COUNCILS, SCHOOL BOARDS, INSPECTORS, ETC.

Lectures on the School Law of Ontario and Regulations relating to:

1. Municipal Councils of Townships, Counties, Cities, Towns and Villages.
2. City, Town and Village School Trustees.
3. Arbitrations and Awards.
4. Public School Inspectors and Examiners.
5. Chief Superintendent and Council of Public Instruction.
6. Acts relating to Roman Catholic, Protestant and Coloured Separate Schools.
7. Copious Analytical Index to Part I and II.

Being, with the exception of Numbers 5-7, the subjects for Teachers' First Class Certificates of Qualification; and for Public School Inspectors and Examiners.

Part I and II contains the substance of Lectures on the School Law, etc., to Normal School Students.

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- Part I, 55 cents, free of postage.
- Part II, with index, 85 cents, free of postage.
- Parts I and II together \$1 35, free of postage.

COPP, CLARK & CO.,

Publishers, 17 & 19 King Street East, Toronto.

Toronto, Jan., 1873.

EDUCATION OFFICE,
TORONTO, October, 1871.

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TORONTO, NOVEMBER, 1873.

No. 11.

STATE OF EDUCATION IN THE BRITISH PROVINCES OF THE DOMINION IN 1871-2.

We have before us the latest Educational Reports of the various Provinces of the Dominion, from which we glean the following interesting facts :

PROVINCE.	No. of Schools.		No. of Pupils.	TEACHERS.		Expenditure.
				Male.	Female.	
1. Ontario	Public	4490	454662	2626	2850	\$2207364
	Separate	171				
	High	104				
2. Quebec	Public	3169	137412	not reported	not reported	1100790
	Dissentient..	209	7513			
	Superior	685	78188			
3. Nova Scotia	Primary	1429	91637	806	726	495439
	Academy	17	617			
	Colleges	6	182			
4. New Brunswick.	Parish	884	39702	281	373	250000
	Gram. Sch..	3	135			
	Normal Sch..	1	65			
5. Prince Edw'd Id.	Model Sch..	1	69	1	1	not repor'd
	Primary	383	15235			
6. Newfoundland.....	Gram. Sch }	281	11211	not reported	not reported	8000
7. Manitoba, estima'd		35	1200			
8. British Columbia..		12	411			

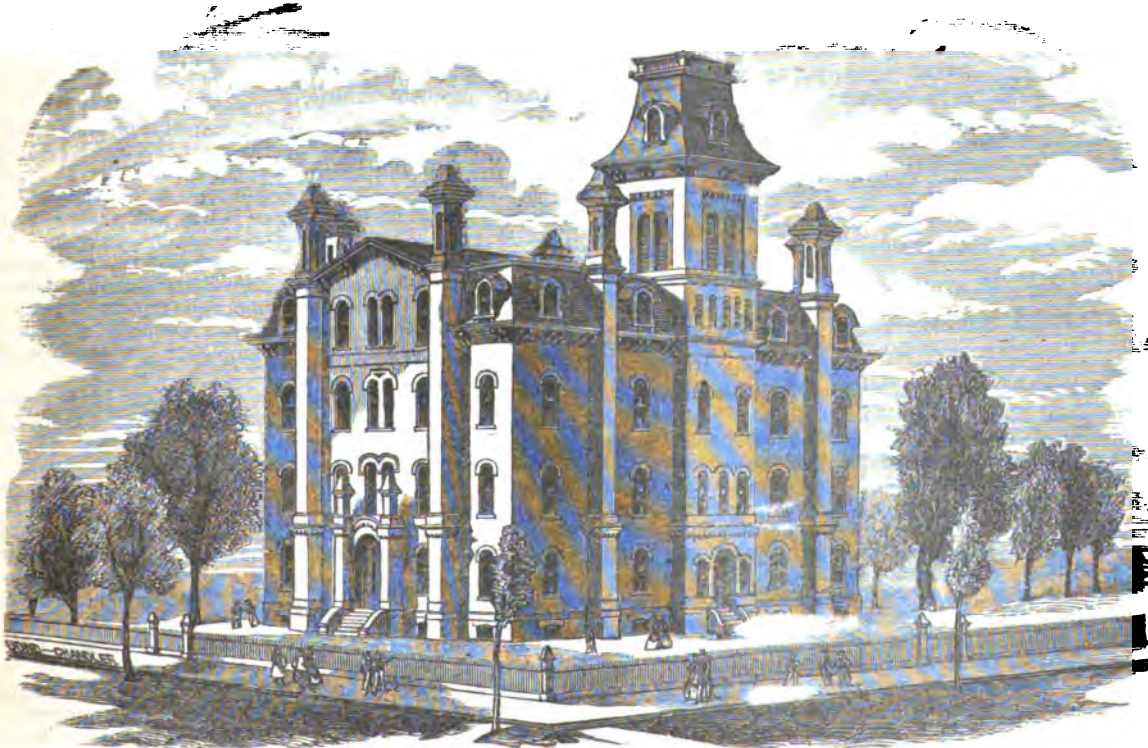
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The particulars for each Province we give as follows :—

I.—PROVINCE OF ONTARIO.

The year 1872 has been a prosperous year in Ontario, so far at least as its educational expenditure is concerned. The operation of the School Law of 1871 has had a salutary effect in stimulating this expenditure, and in thereby providing not only a better class of School accommodation, but in securing to the Teachers a small increase in their stipends.



AURORA HIGH SCHOOL, MICHIGAN, U.S.A.

The number of Public Schools in Ontario is 4,490, and of Roman Catholic Separate Schools 171, total 4,661, being an increase of 63 over 1871. The number of pupils attending these Schools was 454,662, increase 8,326. The number of male Teachers employed is 2,626, of female 2,850, total 5,476, increase 170. The amount paid for the salaries of Teachers in 1872 was \$1,371,594; increase over 1871, \$180,118; the expenditure for sites and for the erection and repairs of School-houses, fuel, maps, apparatus and prizes, &c., was \$835,770; increase \$223,952, or 37 per cent. over 1871, and 75 per cent. over the expenditure for like purposes in 1870. Total expenditure for Public and Separate School purposes in 1872, \$2,207,364; increase, \$404,070.

The number of High Schools and Collegiate Institutes in operation is 104; the attendance 7,968; increase 478. The amount paid in salaries to High School Masters was \$141,812; increase \$27,950; for the erection and repairs of High Schools, &c., \$31,360; increase \$7,196; total expenditure for High Schools and Collegiate Institutes, \$173,172; increase \$35,146. The grand total expended for Public and High School purposes in 1872 was \$2,380,536; increase \$439,216.

II.—PROVINCE OF QUEBEC.

(Hon. P. J. O. Chauveau, Minister of Public Instruction.)

The number of Elementary Schools in this Province is 3,169, attended by 137,412 pupils; the number of dissentient Elementary Schools, 209; pupils 7,513; total Elementary Schools 3,378; pupils 144,925. The total number of educational institutions reported by the Minister of Public Instruction (including Superior Schools, Academies, Colleges, &c.), was 4,063, attended by 223,014 students and pupils, being an increase of 35 institutions and 5,510 students and pupils. The total expenditure for the Primary Schools was \$1,100,790, and for superior education \$71,000; total \$1,171,790.

III.—PROVINCE OF NOVA SCOTIA.

(Rev. A. S. Hunt, M. A., Chief Superintendent of Education.)

There are 1,679 School Sections in the Province of Nova Scotia, but in only 1,429 of them were Schools reported to have been in operation in 1872. These Schools were attended by 91,637 pupils (out of a School population of 107,774, between the ages of five and fifteen) for a longer or shorter period during the year, leaving 16,137 children between those ages who did not attend School. 806 male and 726 female Teachers (or a total of 1,532) were employed in these 1,429 Schools, and received salaries to the amount of \$355,012. The number of School-houses erected was 110, at a cost of \$39,814. The estimated value of the School apparatus in the Schools was \$50,209, and the estimated value of the School-house property itself was \$732,688. There are ten "County Academies," attended by 2,548 pupils; seven "Special Academies," attended by 617 pupils; and six Colleges, attended by 182 students. The Normal School was attended by 44 pupils, and the Model School by 489 pupils. The expenditure on behalf of these Schools amounted to \$554,408, of which \$171,395 were provided by the Legislature. This expenditure was incurred in the following proportions, viz., Public Schools and County Academies, \$495,439; Normal and Model Schools, \$4,596; Special Academies, \$22,842; and Colleges, \$31,530. The expenditure on behalf of poor Schools was \$10,877, including \$6,600 from the Legislature.

IV.—PROVINCE OF NEW BRUNSWICK.

(Theodore H. Rand, Esq., M. A., Chief Superintendent of Education.)

The number of Parish Schools reported in operation was 884, attended by 39,702 pupils; Grammar Schools, 3, attended by 135 pupils; one Training School, 65 pupils; one Model School, 69 pupils. Total, 889 Schools; pupils, 40,206. The Superintendent estimates that at least 49,422 pupils attended the Parish Schools during some portion of the year. Owing to the fact that the year was one of transition, the report gives an incomplete view of the year's operations. We gather from it, however, that the year's expenditure, on behalf of education in the Province during 1872, amounted to not less than \$250,000. There is one Training School with its Model School. The number of Teachers employed in the Province is 654—281 male and 373 female.

One noticeable feature of the proceedings of the Education Department of New Brunswick was the issue of a most valuable series of plans for School-houses. We have already, through the courtesy of Mr. Rand, been enabled to publish in this *Journal* some of these excellent plans, and we propose to insert some additional ones. On the subject of these plans, the Chief Superintendent says:—

"Nova Scotia was the first country that provided by statute

for the classification of all the school-going children of populous districts into an ascending series of grades, according to the attainments of the children. The Common Schools Act of this Province contains a similar enactment, and means have been adopted, within the past two years, to secure some of the more obvious advantages of this mode of organization in the Province of Ontario. This important provision—contained in the 29th sec. of the Common Schools Act—has received the careful attention of the Board of Education during the year. Regulations 5–14 cover the whole subject of school buildings, furniture and premises, adapted to the special requirements of the law. The difficult subjects of the heating and ventilating of school buildings have been examined with much care. There is no feature of the school service of greater importance to the country than the character of the school accommodation. It is quite within the reach of every school district to secure houses and furniture suitable for school work, and to arrange the school premises in a proper manner. The question of expense scarcely enters into the subject, since a suitable equipment is not necessarily more expensive than an unsuitable one, and whatever is essential to the physical welfare of the children while at school cannot properly be withheld by any district. In order the better to assist the local parties in providing suitable accommodation, the Board resolved to publish plans for the construction and furnishing of school houses. J. T. C. McKean, Esq., Architect, St. John, was employed to prepare such designs and general specifications as would meet the requirements of the Act and the Regulations of the Board. After these designs were approved, they were lithographed by the St. John & Halifax Lithographic Co., and published in book form. A supply has been lodged with each County Inspector, and the use of the plans can be had free of charge by any Board of District Trustees. Full sets of Working Drawings were also procured from the architect, and the Education Office, through the Board of Public Works, supplies, on application, copies of these drawings without charge to any district about to erect a new house. Considerable time and means have been expended upon these plans, but I have felt justified, by the importance of the subject, in urging the Board of Education to make permanent provision for their supply. I know of no country where this matter has been met in so satisfactory a way, and the result will be that in a few years New Brunswick will have healthy, convenient and comely school-houses."

It will be seen by the Inspectors' Reports, that a good number of new houses were built, York County alone having erected some thirty. Special mention should also be made of the two school-houses erected by the Trustees of the Town of St. Stephen, at a cost of over \$10,000.

REGULATIONS IN REGARD TO INSPECTORS—CLASSIFICATION OF SCHOOLS.

We heartily commend the following admirable Regulations, and the excellent suggestive remarks of the Chief Superintendent in regard to the proper classification of Schools and the plan of "payment by results."

"REGULATION 42.—Uniform certification of candidates for Inspectorships: In view of the operation of Section 11 of the Act, all candidates for the office of Inspector shall, at or before the period assigned for the operation of such Section, have taught for a period of at least three years, and shall have obtained a license of the Grammar School Class in accordance with Regulations 30 and 31; and upon appointment to office each Inspector shall spend one term at the Provincial Training School, or such time as the Board of Education may require, with a view to a more perfect acquaintance with the methods of School Management and Teaching to be employed in the schools of the Province.

"Taking it for granted that the schools of a population not exceeding 40,000 will be assigned to each Inspector in the discharge of the duties contemplated by Sec. 11 of the Act, I shall briefly outline the manner in which they may be periodically classified in respect of the Quality of work done in them. I would group all school subjects under two heads,—*Obligatory and Optional*. The obligatory subjects would be (say) such as reading, spelling, writing, arithmetic, geography, English grammar and composition. The optional subjects would include all others now taught in our schools, with the elements of vocal music, industrial drawing, and physical science.

"The Board of Education would adjust and publish a programme of proficiency in obligatory subjects, and another in optional subjects. I am aware of the difficult and responsible task involved in the preparation of these programmes; but it is practicable. The great point to be had in mind is to save

the programme from stimulating mechanical teaching, to grasp subjects vitally and not by mere externals, and to lift principles to the surface, and not mere forms. To entitle any school to be classed at all, not less than 75 per cent. of the number of pupils on each class-roll should be presented for inspection. To entitle a school to the first rank 65 per cent. should pass in the obligatory subjects, and an equal percentage of those engaged with optional subjects should pass in two subjects of this programme,—it being obligatory to teach two of such subjects (if the condition of the school permitted), but the teacher having the option as to what two they shall be. Only one subject under physical science should be allowed in any term. If only 50 per cent. of any class (of pupils) passed in two subjects, a school should be entitled to be placed in the front rank if the number of passes averaged 65 for the school. But if this partial failure were repeated in the same subjects in another class (of pupils), the school should not rank as first even if eligible in all other respects, because this repeated double failure would argue inefficient teaching of these subjects.

"To entitle a school to the second rank, 50 per cent. should be required instead of 65, and one subject from the optional programme. Repeated double failure, on the basis of 25 per cent. instead of 50, to disqualify the school for second rank, even if otherwise entitled to it.

"To entitle a school to the third rank, 40 per cent. of enrolled pupils should be required to pass in the obligatory subjects, and repeated double failure out and out, in any two subjects, should preclude the school from classification.

"The number of passes in each subject, multiplied by 100, divided by the number on the class-roll, gives the percentage of passes in that subject; and the mean of these percentages gives the standard according to which the rank of the school would be determined. The outline I have now given is, of course, to be understood as merely approximate. The plan I have suggested is framed expressly with the view of avoiding the evils which educationists too truly, in my opinion, allege to exist in the English plan. The foremost teachers in Scotland assured me that the chief objection now existing in that country to the English plan, was that it ignored the correlation of the various subjects of study, and virtually barred the way to the employment of the most successful methods of dealing with the fundamental subjects. Experiment after experiment has been made, and it has been shown beyond all question, *that schools confined to the study of the three R's make less progress in these subjects, in the same period of time, than those having a more liberal course of study.* There is abundant proof that the soundest instruction in the essential branches is compatible with an extended course of instruction in other subjects. The plan outlined does not countenance the notion that a dry mechanical knowledge of any branch is the thing to be sought after, but it does assume three important things:—First, that good teachers can so inform the minds of their pupils that these pupils shall be able readily to command their knowledge and set it forth; secondly, that competent men can be had to perform this work of fairly testing the knowledge possessed and valuing the knowledge exhibited by any given number of pupils; and thirdly, that the Central Authority shall watch with untiring vigilance the inception, growth, and maturing of the whole system. These assumptions are warrantable ones, and are obviously involved in the provisions of the 11th section of the Act.

"The outline I have now given indicates the general system of school work and supervision which must in a few years result from the operation of the Common Schools Act. I respectfully submit that the Board of Education should be empowered to annex to the terminal payments provided by Section 11, the following SPECIAL PECUNIARY GUARANTEES TO TEACHERS:

MALES.	FEMALES.
First Rank \$	First Rank \$
Second Rank \$	Second Rank \$
Third Rank \$	Third Rank \$

"Where the series of passes made includes different Ranks, the proportionate average amount affixed to these different Ranks shall form the yearly unit; but when the whole series of inspections of a school (or schools) taught by any teacher shows less than seventy-five per cent. of passes in some Rank, there shall be no claim to the special pecuniary guarantee, until this percentage is restored.

"2. Teachers who shall have taught for a period of at least five years, on an average, in each district in which he or she has been employed under this guarantee, and the whole series of inspections of whose schools shows seventy-five per cent. of passes in the First Rank, shall be entitled to receive a yearly allowance from the Board equal to the following amount per year, for every year of service performed hereunder:

Male Teachers \$—, Female Teachers \$—.

"It is specially to be observed that the Rank of the School has no legal connection with the Class of the Teacher, but is wholly dependent upon the QUALITY of the work professed by the School, under the operation of an Obligatory and Optional programme of instruction. This leaves ample room and verge for the recognition of every form of teaching ability, and affords no shelter for talented indolence.

"It is my conviction that the suggestions offered include in essence, and must evolve in operation, a fulness of sound results far beyond what the first blush of the subject might disclose. I shall briefly attempt to put these suggestions to the test. And in doing so, I wish anew to direct attention to *what it is we are in search of.* It is this simply: the right education of the people of our Province,—not the right education of the few and the wrong education of the many, but a measure of the veritable thing itself for all. This is the aim, nothing more, or less, or else. Any proposition, come whence it may, that seeks incorporation into a school system, is to be condemned, if it can be shown that its operation will not always and ever be a means to this end. But if it fairly passes this test, it is genuine, and all should unite for its incoming and welcome. Do, then, the two suggestions I have ventured to offer in behalf of a teaching profession in this Province, so touch the complex sources of school life as to evoke concurrently all the forces of the school organism in the spread of sound education? I think a satisfactory reply to this crucial question may be rapidly outlined.

"For the Province to demand specific qualifications as the basis of conferring authority to teach, involves the determination by the Province of the nature of these qualifications, the ensuring of suitable facilities for their attainment, and the careful examination by competent persons of all applicants for license. Thus, at one stroke, scholastic and professional preparation is quickened over the whole country, and quickened for all time.

"Persons who are not capable of demonstrating a reasonable degree of fitness for the work of teaching will not seek to enter upon it, or, seeking, will be debarred. Young men and young women of good parts observe that the Province has work for them to do,—work which she impressively declares to be of great moment, and which unqualified persons will not be commissioned to undertake; and their sympathies are enlisted in this department of the public service.

"There is ever being born into the community a host of true souls, such as real teachers are made of, who are ready to renounce the prospect of becoming wealthy, for the sake of doing service in a great and worthy cause. All that is needed is the public assurance that the material wants of themselves and theirs shall be provided for in a manner tolerably in keeping with the functions to be discharged. Let this class of persons once know that the Province is pledged to make public declaration of the quality of the teacher's work, and that those who do good work can devote their lives to it, without being exposed to distress and want in their days of weakness and old age, and the Province will have their services in the school rooms of the land. And let me here remark that the special pecuniary guarantees which I have suggested, are not pay for the services done, but simply the removal of an obstacle which would have prevented the service being done; and the recognition of the importance and value of the service."

PLAN FOR THE SUPERANNUATION OF TEACHERS.—OBJECTION TO THE ONTARIO PLAN.

"To keep the door of the profession wide open for the admission of the best talent of the country, and at the same time to keep another door open for the quiet withdrawal of those who, from whatever cause, are not successful teachers, is a problem that must be solved before sound education can be widely diffused. But the careful classification of all teachers by the Province, and the periodic classification of their schools under the conditions and in the manner suggested, with the accompanying guarantees, would set the door of entrance wide open, render those happy who love the work, and ever motion the remainder towards the door of exit. And just here, by way of example, I wish to put a current proposition to the touchstone of this test. Both on this continent and in Europe a superannuated

teachers' fund is thought to be a most desirable thing. In this opinion I fully concur, but not in the principle on which any fund known to me is administered. Take the Ontario fund, which illustrates a feature common to all that have come under my notice. Now, the benefits of this fund do not flow to the recipients as the recognition by the Province of the excellence of service rendered. The benefits are open to good, poor and indifferent teachers alike. Hence persons who lack the energy necessary to make a decent livelihood in other callings, discover that their country's forethought has met their needs exactly. The result is, they are powerfully drawn towards 'keeping school.' They can eke out the present as well at teaching as at anything else; while the fund so thoughtfully created for the cloudy day ahead, begets in them a persistent continuance in the work. The shifts of which they are capable pass comprehension. Their existence in the profession drives many worthy persons out of it, and keeps more from entering it. These 'specks in the garnered fruit' generate decay. Poor teachers multiply, and the school system is weighed down with them. This is the obvious tendency of a fund so administered, and unless powerfully counteracted must retard the spread of sound education among the people at large. But, unless I greatly mistake, the pecuniary guarantees I have suggested meet the very case these superannuated funds were created to meet, and on principles which pass the test. These guarantees are for excellence of work,—excellence not of to-day, or of to-morrow, but throughout the entire period of service. Those whose schools fail of being ranked at all, or of maintaining the minimum status, are not doing a tolerable measure of the educational work required. The publication of this fact by the Province withholding the pecuniary guarantees given to others, must result in stimulating such teachers to diligence and effort, or in causing them to make room for better teachers. The migratory habits of teachers can also be effectively checked by the operation of these guarantees, so far as it is desirable to check them."

V.—PROVINCE OF PRINCE EDWARD ISLAND, 1872.

(Education under control of a Board of Education.)

The Visitors' Report on the State of Education in Prince Edward Island is very meagre. It merely gives a few scholastic statistics, without any information as to the cost of the Schools or the sources of their income. We learn, however, that the Schools are under the control of a Provincial Board of Education—that there are 383 of them in the Island (including fourteen Grammar Schools), attended by 15,235 pupils, and taught by 344 Teachers—209 male and 135 female. The Island is divided into three Counties, and the Schools are inspected by three County Visitors. One Normal School exists at Charlottetown, but of it the Visitor for King's County says:—"Instead of being a Training School for Teachers, it occupies the anomalous position of being a High School for children in Charlottetown a little in advance of the other Public Schools."

VI.—PROVINCE OF NEWFOUNDLAND.

The information in the School Reports of Newfoundland is also very meagre. From them, however, we learn that the island is divided into districts, and in each district there are one or more schools. These schools are classified as follows: 101 Roman Catholic, attended by 5,535 pupils; 22 Church of England, attended by 2,389 pupils; 12 Wesleyan Schools, attended by 760 pupils; 1 Presbyterian School, attended by 67 pupils; 138 Government elementary schools (mixed), attended by 7,159 pupils, and 7 Government commercial schools, attended by 301 pupils; total 281 schools, attended by 11,211 pupils. The salaries of Teachers range from \$120 a year to \$400, average \$200. The schools are under the control of two inspectors—one a Protestant and the other a Roman Catholic.

VII.—PROVINCE OF MANITOBA.

The information received relating to education in this Province is imperfect, as only the "Rapport du Surintendant de l'Instruction Publique pour les Ecoles Catholiques de la Province de Manitoba" has reached us. From this report we learn that seventeen schools have been established, and that they are attended by 368 boys and 271 girls—total 639. The cost of these schools and their sources of income are not stated. The Legislature established a system of education for the Province in 1871, and placed it under the control of two Councils of Public Instruction—one a Protestant and the other a Roman Catholic. It also gave to each council \$3,000 to assist them in maintaining their respective schools.

VIII.—PROVINCE OF BRITISH COLUMBIA.

British Columbia, although educationally the youngest Province of the Dominion, bids fair to outstrip some of her sister provinces

in enterprise and efficiency. The Act organizing her system of education was only passed on the 11th of April, 1872, and the first report on the condition of the schools was issued in September.

We are happy to be able to state that John Jessup, Esquire, the first Superintendent of Education for the Province of British Columbia, appointed under the new Act, was formerly a successful student of the Normal School in Ontario. He has, as we see from his report, not failed to introduce into the British Columbia Schools many features of the Ontario School System, and the law and most of the official regulations are almost verbatim transcripts (as far as they go) of those in force in this Province. The text-books used also are chiefly the same as those authorized for use in Ontario. There is a Provincial Board of Education, which is authorized to examine and give certificates to Public School Teachers, and to prescribe general regulations for the schools, etc.

The Legislative educational grant, for all purposes, is \$40,000 a year. Of this sum \$8,346 were expended for school-house building and repairs. The trustees have no power to levy rates, but all the expenses of the schools are defrayed, upon the certificate of the Superintendent, out of the \$40,000 grant. There are in British Columbia (and Vancouver Island) 24 school districts; in one-half of them only schools were reported, and these were attended by 249 boys and 162 girls—total 411.

SCHOOL LAW SUGGESTION.

A return to an address of Parliament asking for information relative to the School Law of New Brunswick has just been issued, with the object of shedding light on the dispute between the Local Government and the Roman Catholic clergy. We do not now propose to discuss the questions involved in that dispute, but rather to note a few interesting differences between our own school law and that of our sister Province.

The most notable of these differences is in the method of paying their teachers. A very ingenious attempt is made to introduce the principle of payment in accordance with the work done and the class of certificate held by the teacher.

The Legislative Grant is distributed at present in the following manner:—

Male Teachers,	First Class,	\$150
" "	Second Class,	120
" "	Third Class,	90
Female Teachers,	First Class,	110
" "	Second Class,	90
" "	Third Class,	70

Assistant Teachers one-half the above amounts. After 1876, it is provided that the above figures shall be altered to the following:—Male Teachers \$100—\$80 and \$60 respectively, and female teachers \$70, \$50 and \$40 respectively. But to that apportionment each Teacher, irrespective of certificate, whose school is reported by the Inspector as of the first rank in respect to quality of instruction, shall receive \$40, if of the second rank \$25, and if of the third rank \$10. Assistants get half these allowances. The county and section grants and taxes make up the balance of salaries and expenses, as in Ontario.

We consider the principle involved in these arrangements a most excellent one, and we beg to call the attention of the Department of Public Instruction and also of the Attorney-General to the advisability of incorporating some provision of this nature in the New School Law of Ontario. At present the entire financial pressure is uniformly against the higher class of teacher instead of being in his favour. The man who will work cheapest is, generally speaking, the man who has spent least time and money in qualifying himself for his work, and experience proves that in the majority of cases, fortunately not in all, the cheap man has the advantage in getting a situation. As the law at present stands, the Boards of Examiners, both Provincial and County, find none to second their efforts to raise the standard. If, however, the law was so amended that in getting a first class teacher, a board of trustees would be able to offer him sixty dollars more than a third class teacher, without paying a cent more themselves, we do not doubt for a moment that a permanent difference between the salaries of first and third class men could be established, ranging at least as high as one hundred dollars.

We note another difference between our system and that under consideration. The Municipal Grant is 30cts. per head of the population, and it is divided thus. First, to every school in the county \$20 per annum, if open twelve months; the remainder of the fund is then divided among the several schools on the basis of daily attendance, the same as with us. —*Waterloo Chron. &c.*

LIST OF CERTIFICATES AWARDED BY THE COUNCIL OF
PUBLIC INSTRUCTION, AND BY THE COUNTY AND CITY BOARDS OF
EXAMINERS AT THE JULY EXAMINATIONS, 1873.

1. By the Council of Public Instruction.

MALE.

FIRST CLASS.

A.

Counties.

Davison, John L. York.

B.

Cochrane, Robert Wellington.
Fletcher, Morris J. Oxford.
Leavitt, Thaddeus W. H. Lees.
Smith, Archibald Ottawa.

2. By the County and City Boards of Examiners.

MALE.

SECOND CLASS.

A.

Board of Examiners.

Elliot, William Dundas.
Ferguson, Miles Lambton.
McNeil, Alexander York.
McNevin, James Toronto.
Priest, George W. Welland.
Robinson, John Wellington.
Ryerson, Jesse Norfolk.
Sellars, Ford Haldimand.
Smoke, Samuel C. Brant.
Whitney, Philo. A. Dundas.
Wismer, John A. York.

B.

Alford, William York.
Anderson, James Toronto.
Ash, George H. Peterborough.
Bradley, George York.
Brunner, Michel Wellington.
Clark, J. N. Huron.
Clark, Levi York.
Cornforth, William Hamilton.
Curtis, Smith Leeds and Grenville.
Graham, Robert H. Grey.
Haverson, James Bruce.
Hicks, Richard Huron.
Johnson, George W. Wentworth.
Knowles, Richard H. Wellington.
Leighton, John S. Wellington.
Leitch, John A. Wentworth.
Lindsay, George Grey.
Linton, Adam R. Durham.
McAulay, William J. Wellington.
McDonald, Donald Wellington.
McFaul, Leonard L. York.
McKillop, James B. Elgin.
McMurchy, John Victoria.
Nairn, David Wellington.
Perkins, Joseph York.
Pierce, John Lambton.
Roddy, John Northumberland.
Sanderson, Leonard D. Peel.
Shepherd, Richard Lambton.
Smith, David L. York.
Stafford, Cyrus W. Elgin.
Stilwell, John Wentworth.
Stuart, William Wentworth.
White, Eli Lester Leeds and Grenville.
Wilson, William York.

FEMALE.

A.

Coulson, Martha Simcoe.
McArthur, Margaret Dundas.
Mitchell, Isabella Welland.
Wallace, Isabella Peel.

B.

Brown, Agnes Grey.
Gilpin, Martha Grey.
Grier, Mary Grey.
Helliwell, Sarah York.
Lindsay, Isabella Frontenac.
Lovekin, Annie Victoria.
Smith, Minerva Grey.
Somerville, Harriet York.
Spragge, Emma Grey.
Thornton, Ann E. Elgin.
Whyte, Bridget Hastings, S.
Young, Hannah J. Elgin.

NUMBER OF CERTIFICATES AWARDED BY THE COUNCIL
OF PUBLIC INSTRUCTION, AND BY THE COUNTY AND CITY BOARDS OF
EXAMINERS, AT THE JULY EXAMINATIONS, 1873.

COUNTIES.	NUMBER WHO APPLIED FOR				WHO RECEIVED					
	1st.	2nd.	3rd.	Total.	1st Class.	2nd Class.		3rd Class.		Total.
						Male.	Female.	Male.	Female.	
Glengarry			29	29				2	11	13
Stormont	1	15	16					1	3	4
Dundas	3	35	38			2	1	6	11	20
Prescott		5	27	32				4	14	18
Russell		6	44	50				17	17	34
Carleton										
Leeds	1	7	81	89	1 B	2		13	35	51
Grenville										
Lanark			32	32				4	6	10
Renfrew			24	24				1	1	2
Frontenac	1	8	27	36			1	5	11	17
Lennox			19	19				3	4	7
Addington										
Prince Edw'd	1	6	48	55				5	6	11
Hastings	8	70	78				1	4	5	10
Northum'd	4	31	35			1		5	10	16
Durham	8	29	37			1		9	7	17
Peterborough	1	23	24			1		5	7	13
Victoria	7	61	68			1	1	3	28	33
Ontario			46	46				17	22	39
York	6	25	68	99	1 A	9	2	26	26	64
Peel	7	19	26			1	1	3	2	7
Simcoe	7	70	77				1	25	21	47
Halton	3	19	22					2	5	7
Wentworth	7	22	29			4		7	10	21
Brant	5	31	36			1		5	16	22
Lincoln	3	4	29	36				5	15	20
Welland		3	12	15		1	1	3	6	11
Haldimand	3	38	41			1		6	13	20
Norfolk	1	13	14			1		1	2	4
Oxford	1	5	57	63	1 B			7	7	15
Waterloo	4	39	43					4	6	10
Wellington	3	19	86	108	1 B	7		23	26	57
Grey	2	12	82	96		2	5	14	19	40
Perth	2	17	44	63				10	4	14
Huron	1	11	82	94		2		18	6	26
Bruce	1	1	70	72				22	8	30
Middlesex		14	117	131				21	18	39
Elgin		9	55	64		2	2	11	19	34
Kent		6	29	35				5	9	14
Lambton	1	18	37	56		3		8	8	19
Essex			25	25				5	8	13
Toronto	3	3	1	7		2			1	3
Hamilton		4	18	22		1		2	12	15
London		3	9	12				1	7	8
Ottawa	1	10	10	21	1 B				10	11
Total	27	265	1723	2015	5	45	16	338	482	886

TIME TABLE FOR THE PUBLIC SCHOOLS HAVING IN THEM ONLY THE I, II, III, & IV. CLASSES OF THE NEW PROGRAMME.

(Prepared by ROBERT LITTLE, Esq., Inspector of Public Schools in the County of Halton, as a suggestion for Teachers, to be tested by experiment before final adoption.)

N.B.—The figures in the Table refer to the "Subjects" mentioned in the margin.

SUBJECTS.	DAY.	MORNING.												AFTERNOON.																													
		9.00—9.05.						10.30—10.40.						10.40—10.45.						NOON INTERMISSION.						AFTERNOON INTERMISSION.						Vocal Music.						CLOSING EXERCISES.					
		9.05—9.25.	9.25—9.40.	9.40—10.05.	10.05—10.30.	10.30—10.40.	10.40—10.45.	10.45—11.00.	11.00—11.15.	11.15—11.40.	11.40—12.00.	12.00—12.15.	12.15—12.30.	12.30—12.45.	12.45—1.00.	1.00—1.15.	1.15—1.30.	1.30—1.45.	1.45—2.00.	2.00—2.15.	2.15—2.30.	2.30—2.45.	2.45—2.55.	2.55—3.15.	3.15—3.35.	3.35—3.55.	3.55—4.00.																
CLASS.	II.	I.	IV.	III.	II.	I.	IV.	III.	II.	I.	IV.	III.	II.	I.	IV.	III.	II.	I.	IV.	III.	II.	I.	IV.	III.	II.	I.	IV.	III.															
1. READING.	MONDAY.	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
2. SPELLING.	TUESDAY.	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
3. WRITING.	WEDNESDAY.	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
4. ARITHMETIC.	THURSDAY.	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
5. GEOGRAPHY.	FRIDAY.	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
6. LINEAR DRAWING.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
7. MUSIC.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
8. OBJECT LESSONS.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
9a. GRAMMAR.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
9. COMPOSITION.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
10. CHEMISTRY AND BOTANY.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
11. CANADIAN AND ENGLISH HISTORY.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
12. NATURAL HISTORY.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															
13. CHRISTIAN MORALS.		Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1	Rec. 1															

(a) Under a monitor. (b) Afternoon lesson. (c) Next morning's lesson. (d) Parsing, analysis of sentences, &c. (e) Based on morning lesson. * St. Study by pupils Rec. Recitation by pupils.

NOTE.—After deducting for opening and closing exercises, intermissions and vocal music, as given in the above Time Table, viz., 3 hours and 20 minutes, there remain of the school week 80 hours 40 minutes. The proportion of this time allotted to each class for direct instruction by the Teacher is as follows:—I. class, 5 hours 25 minutes; II. class, 6 hours 15 minutes; III. class, 7 hours 5 minutes; IV. class, 7 hours 5 minutes. This is exclusive of the time which a class may gain by being combined with another for instruction. The time apportioned to the I. class is the basis, to which 50 minutes are added for each grade of class. The rank of the class and the progressive increase in the number of subjects of study render this addition necessary. Besides the instruction received from the Teacher, the I. class receives monitorial instruction in the forenoon to the extent of 1 hour 10 minutes; and in the afternoon to the extent of 1 hour 5 minutes. Except in the case of the I. class, the "Spelling" exercise, under the heading "Recitation," is intended to be a written one, and is designed, not to supersede, but to supplement, the oral spelling of the Reading Lesson. A subject which is taken up by a class only twice one week, may be taken up thrice the following. For example:—The IV. class may, one week, receive instruction in Geography from 11.15 to 11.40 a.m. on Monday, Wednesday and Friday, and in Natural History on Tuesday and Thursday; and the following week in Natural History on Monday, Wednesday and Friday, and in Geography on Tuesday and Thursday.

PRESENTATION OF THE McCABE GOLD MEDAL.

On the 9th September, the presentation of the McCabe Gold Medal, to the most successful candidate among those competing for first-class certificates at the last July examination, took place, in the presence of the Council of Public Instruction and others, at the Education Department. The Central Committee of Examination recommended Mr. John Lorenzo Davison as the most deserving candidate, and the medal was accordingly presented to him by the Chief Superintendent of Education, Dr. Ryerson. There was a large attendance of the pupils, both male and female, and some of the general public. Addresses were delivered by the Rev. Dr. Ryerson, Mr. McLennan, Q. C., Mr. H. M. Doroche, M.P.P.; Dr. McLellan, Prof. Young, (members of the Committee of Examiners), and the Rev. Principal Davies. In the recent examination, as will be seen in the table, there were twenty-seven candidates for first-class certificates, and of these the five following were successful:—Class 1, grade A, John L. Davison; Class 1, grade B, R. Cochrane, Morris J. Fletcher, Thaddeus W. H. Leavitt and Archibald Smith. Three out of the five successful candidates were students of the Normal School.

MINISTER AND DEPARTMENT OF EDUCATION FOR QUEENSLAND.

Whereas on the first day of January, one thousand eight hundred and seventy, the Primary Schools within the Colony were opened to all pupils free of charge for instruction; and whereas it is desirable to found a Queensland University and to extend the benefit of free instruction in the higher branches of learning to students of all classes: Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of Queensland, in Parliament assembled, and by the authority of the same, as follows.

1. From and after the passing of this Act there shall be a department of the public service, to be called the Queensland Education Department, under a Minister of Education, with such officers and servants as may be required, whose salaries, together with the whole expenses of the department and of the State education of the colony, shall be defrayed out of moneys to be voted by Parliament.

2. Notwithstanding anything contained in any previous Act, the Minister of Education shall be capable of sitting and voting in either House of the Legislature.

3. An annual estimate shall be laid before Parliament by the Minister, in full detail, of all the moneys required for the expenditure of his department for the year ensuing.

4. The Minister of Education shall have the whole management of State education, under the Governor in Council.

5. The department shall have a seal, approved of by the Governor in Council, and inscribed "Queensland Education Department," which shall be kept by the Minister of Education. And such seal shall be judicially noticed in all courts.

6. The Governor in Council may divide the colony into districts for the purposes of this Act, and appoint local patrons or managers, with such duties as he shall deem necessary for securing the due observance by teachers, pupils and parents, of the provisions of this Act and of the regulations made in pursuance thereof.

7. The Queensland Education Department shall by that name be a body corporate, and shall have perpetual succession and capacity to sue and be sued in all courts; and power to acquire and hold lands for the purposes of this Act, and for providing funds for education purposes. And such department shall be at liberty to receive any property or funds which may from time to time be conveyed, bequeathed, or given to such department, whether generally or for any college or colleges, school or schools, belonging thereto or under the same, or for the promotion of any particular branch or branches of education or instruction. And it shall be the duty of the department to administer such property, funds, or money according to the wishes and intentions of the donors; and in such manner as to raise the standard of education and otherwise increase the educational efficiency of the school or schools intended to be benefited.

8. State education shall be directed to the intellectual, moral, and physical training of the students and to the formation of habits of self-culture. It shall also be—

Free of charge for tuition in the University and the schools.

Compulsory on children under fourteen years of age not attending other efficient schools.

Religious where parents shall not expressly forbid it, but in all respects of such a character that all Christians may receive it without offence and without prejudice to the conscientious convictions of any parent.

Industrial or technological.
Scientific.
Classical and
Professional.

The object of this Act is more especially to secure to every child a competent degree of elementary instruction, and the power of intelligent industry.

9. It shall be lawful for the Governor in Council from time to time to vest in the department, or otherwise to render available thereby, for the purposes of education, all public libraries, museums, workshops, hospitals, botanic gardens, parks, art galleries, and exhibitions of painting, sculpture and polytechnic objects, and all other means of instruction which may be under the control of the Government.

The University.

10. There shall be a University, to be called the "Queensland University," constituted in the first instance by a Senate.

11. All primary schools, grammar schools, technological and professional schools, colleges and educational institutions belonging to the Queensland Education Department shall form subordinate and auxiliary parts of the University.

12. The first Senate shall be nominated by the Governor in Council, and shall consist of not more than twelve members, of whom not less than one moiety shall be graduates of British or Foreign universities.

13. The Senate so constituted shall frame statutes for the full organization and work of the University, and shall submit such statutes to the Governor in Council for confirmation, and upon being so confirmed such statutes shall have the force of law.

14. The members of the Senate shall retire in such rotation as the Governor in Council shall appoint, but retiring members shall be eligible to re-appointment by nomination as before provided.

15. On default by such Senate to perform the duty of preparing such statutes within six months of the nomination of members, the Governor shall direct such duty to be performed by the Minister of Education; he shall prepare the necessary statutes.

16. It shall be lawful for the Governor in Council to apply to Her Most Gracious Majesty to grant, if it be her royal pleasure, unto the said University, a charter or charters, with such powers, privileges, right and rank within her dominions as to her may seem meet.

17. Until such charter can be obtained, it shall be lawful for the University to examine and confer degrees in arts, law, science, medicine, and in such other faculties as the University shall see fit to establish.

18. Students of both sexes shall be admitted to all the schools, and shall be capable of taking any degree in the University.

19. The University shall, when required, confer with and advise the Minister of Education on all matters connected with State education.

20. The University shall be charged with the duty of selecting or preparing, or of acquiring by purchase or otherwise, the right to print all the text-books for use in all the schools and colleges within the University, subject, however, to the approval of the Governor in Council; and on any default in such duty by the University it shall devolve on the department.

Grammar Schools and Colleges.

21. The existing grammar schools may, with the assent of a majority of the subscribers or donors present at any public meeting convened by advertisement in the Ipswich or Brisbane newspapers, be surrendered to the department, and shall henceforth become part of the University.

22. Upon such assent being given and notified in the *Government Gazette*, all the lands and property of such grammar schools shall become vested in the Queensland Education Department. All medals founded by any donor shall be maintained by the department. And where scholarships have been permanently endowed, the department shall by means of medals or other gifts perpetuate the donation with the name of the donor.

23. The department shall establish new grammar schools or colleges, or make provision for doing the work of such schools or colleges, in such other places as Parliament shall approve. A grammar school or any part thereof may be raised to the rank of a college where the general results of the teaching therein justify such promotion.

24. The Governor in Council shall frame by-laws for the admission of students, by examination and not otherwise, to the grammar schools and colleges, and for the course of study therein, and generally for their discipline and good management.

Primary Schools.

25. The Governor in Council shall frame rules for the conduct and course of study in the primary schools of the colony, and generally for their foundation and government.

26. Instruction in the primary schools shall be as follows :—

- Reading and recitation.
- Vocal music.
- Writing and English composition.
- Arithmetic.
- English grammar.
- Geography.
- English, Roman and Greek history.
- Euclid—Book I.
- Practical mensuration.
- Rudimentary geology, botany, chemistry, mineralogy, and mechanics, with some knowledge of their application to agriculture and the arts.
- Object lessons.
- Drill.

A primary school or any part thereof may be raised to the rank of a grammar school where the general results of teaching therein justify such promotion.

27. No child shall enter any primary school under the age of six.

28. Nor shall any child leave any such school, except on promotion, under the age of twelve, unless excused on account of permanent physical or mental disability, or because other adequate means of education are provided by the parent.

29. Nevertheless after the age of ten years it shall be lawful for the Minister of Education to permit any child to receive instruction during half the year at such times, either by daily, weekly, monthly, or other periods, as he may permit; provided such child be employed during the other half of his or her time in agriculture or some industrial art until the age of twelve.

30. A certificate shall be given to every child on leaving school, notifying the age at which he left, together with the state of his education.

31. It shall be lawful for every child to remain in the primary school until fifteen years old.

32. The attendance of the child until the age of twelve on the primary schools may be required by order on the parent, to be obtained on a summons and hearing in a summary way by two or more justices of the peace. And such order may be enforced in like manner by a fine not exceeding two pounds, to be levied by order of two justices by distress on the goods and chattels of the parent for each instance of neglect or refusal to procure the attendance of the child, unless the parent shall prove to the satisfaction of such justices that his child is in regular attendance at some school now established or under a teacher certified by the Queensland Education Department to be competent to impart the degree of primary instruction required in the primary schools of the colony, or that his or her education is otherwise adequately provided for. The parent of any incorrigible child may delegate to the department the power, by any of its officers, to apprehend and take the child to any primary school.

33. The foregoing compulsory provision shall not be enforced where there is no school belonging to the department within three miles of the parents' residence.

Teachers.

35. The teachers under the existing Board of General Education shall be employed by the department, subject to such rules as the Governor in Council may establish.

36. The Governor in Council may give precedence and increased salary to teachers taking degrees in the University.

37. From and after the thirtieth day of December, one thousand eight hundred and seventy-eight, all teachers of the first class shall have taken a degree in the Queensland University, and all teachers of the second class shall have become members of the same; provided that teachers now employed by the Board of Education shall be exempted, if they so desire it, from the foregoing provision.

38. The department shall provide for the training of teachers.

39. The department may establish schools for children under six years of age.

40. The department may also establish schools for children, not criminal, under fourteen years of age, whom it may be deemed advisable to keep in separate schools. No name shall be given to such last-mentioned schools to distinguish them from the other primary schools of the colony. The course of instruction therein and certificate on leaving shall be the same; and whenever practicable, deserting children shall be removed into the primary schools.

41. The department may employ itinerant teachers, and by such means as may be found available give to residents in the bush the advantages of State education.

Miscellaneous Provisions.

42. The Governor in Council shall frame regulations for giving effect to this Act in all matters not herein otherwise expressly declared.

43. The word "parent" in this Act shall include guardian and any person who is liable to maintain or has the actual custody of any child. The word "teacher" shall include every person who forms part of the educational staff of a school.

44. All lands, goods and property now vested in or possessed by the Board of General Education shall be, and the same are hereby, vested in the Queensland Education Department.

45. It shall be lawful for any person or persons having title, who shall obtain the approval of the Governor in Council, to convey to and invest in the Queensland Education Department any lands, goods and property now used for the purposes of a non-vested school under the Board of General Education.

46. The department shall pay the fair value of such property to the person entitled to receive the same, such value to be ascertained by the Railway Arbitrator in case of dispute.

47. From the passing of this Act no school not already established as a non-vested school shall receive aid from the State, and on the thirtieth day of December, one thousand eight hundred and seventy-six, all State aid to non-vested schools shall cease.

48. The existing Board of General Education is hereby dissolved.

49. The Education Act of 1860 is hereby repealed, but all rules and by-laws not inconsistent with this Act shall remain in force until the Governor in Council shall promulgate rules as hereinbefore provided.

50. The Grammar Schools Act of 1860 and the Grammar Schools Act Amendment Act of 1864 shall be and the same are hereby repealed; except so far as the same relate to the Brisbane Grammar School and the Ipswich Grammar School, in respect to which the said Acts shall remain in force until the said schools shall become vested in the Queensland Education Department, when the said Acts shall be finally repealed.

51. Nothing in this Act contained shall affect the Industrial and Reformatory Schools Act of 1865.

52. This Act may be cited as the State Education Act of 1873.

II. Educational Matters in Ontario.

1. COMPETITIVE EXAMINATIONS IN BATHURST AND DRUMMOND.

These Examinations were held at the School-house at Balderson's Corners; that of Drummond on Friday, Oct. 3rd, and that of Bathurst on the following day.—Representative pupils appeared from various School Sections to contend for the honours—*nine* out of *eleven* Sections in Drummond turning out candidates, and *six* out of *fourteen* in Bathurst. The lively manner in which the children, teachers and parents present entered into the competition must have satisfied the most doubtful mind that good effects would follow from the experiment. The Examinations were conducted chiefly in writing—that being the only way in which an accurate estimate could be formed in a short space of time. The Schools that carried away the most prizes were those taught by Duncan A. Stewart and Peter McIntyre, in the Townships of Drummond and Bathurst respectively. It is a matter for congratulation, however, that the honours were shared by the other Schools, particularly in Drummond, those taught by Miss Lafferty, Miss Gibson and Miss Meredith; and in Bathurst, those under the superintendence of Miss Margaret Graham and Miss Bella May. The reading of four little girls in the Second Class, from Miss Lafferty's School, is deserving of special notice. It was fluent, expressive, natural and full of life, and presented a striking contrast to the careless and slovenly attempts so often made in our Schools in this important branch of education. In many instances the writing itself, and the style in which the work was done, were evidences that the practice of written Examinations are not common enough in our Schools. Lord Bacon, in one of his essays, concisely observes, "Reading maketh a full man; conference, a ready man; and writing, an exact man." We trust, therefore, that reviews and written Examinations will form part of the regular work of all teachers. The Trustees of the Balderson's Corners School-house, aided by several of the residents of the Section, with their usual liberality, provided a sumptuous repast in the School room, on Friday, to which Examiners, teachers, children, parents and visitors were invited. This mark of attention on their part was much appreciated, and reflected great credit on their thoughtfulness and consideration. The School is an admirable building for occasions of the kind which we are describing, as it is large, well seated and well supplied with every necessary.—On the walls we observed several skilful designs in drawing—the work of the teacher and Messrs. Hugh McIntyre and Thomas Bothwell, his pupils.

The List published gives the first three in each subject. Each

of these did not necessarily receive a prize, but were kept for determining the rank in General Proficiency.

The Examiners were, for Drummond, Inspector Slack, Dr. Thornton and Rev. R. L. Stevenson; and for Bathurst, Inspector Slack, Dr. Thornton and James H. Stewart.—*Perth Examiner*.

2. MAP DRAWING IN THE HAMILTON SCHOOLS.

A noticeable feature in the fine arts department of the Exhibition was some excellent specimens of map drawing by various pupils of the Central School. They were entered this time as extras among the fine arts, but we hope to see them classed in future as a regular branch of the department. The drawings consisted of maps of the continental divisions of the globe, and of smaller portions of country. One of the latter class was a map of the County of Wentworth, displaying the townships, concessions, etc. Another drawing was a sketch, taken probably from imagination, of the burning of the steamer *Kingston*, on Lake Ontario, very nicely done in pencil. We trust attention will be given to this branch at exhibitions yet to come off, and that every encouragement will be tendered to the pupils of other schools, inducing greater competition. It is a fact well known—or should be at least—that by drawing maps of countries the pupil will imbibe a more lasting impression of their outlines and physical features than by any other mode of teaching them. Geography, with this method of teaching, becomes a live pleasure for the pupil instead of a hated task. The specimens shown were recommended for a prize, which they richly deserved.—*Hamilton Spectator*.

3. NEW SCHOOL HOUSE FOR COLOURED PEOPLE, CHATHAM.

LAYING OF THE CORNER STONE.

In lately noticing the new buildings in the course of erection in town, we mentioned, amongst others, a brick School House, to be erected on the corner of King and Princess streets, for the exclusive use of our coloured population. The corner stone was laid yesterday (Tuesday) at four o'clock, p.m. The Chairman, Major Baxter, opened the proceedings with a short speech. He said that they were met there that day for the purpose of laying the corner stone of a new School House. He had much pleasure in stating that Mr. R. K. Payne, an old townsman and the oldest school trustee, was to have the honour of performing the ceremony. He (the Major) had no doubt but the new building would prove of great benefit to the rising generation, as well as be a credit to the town. The stone was then hoisted into position, and Mr. Payne stepped forward and said that, in the name of the Almighty God of all, he would lay the corner stone of the building about to be erected. He hoped that He would bless the labours of the teachers of the school; it was for the good of society it was erected, and he hoped that many attending the school would be made good citizens and good Christians. Mr. Payne then gave a reminiscence of the progress of school building and school matters in Chatham for a period of 30 years. He said that when he first knew the place, the census amounted to 364, and the number of buildings was 64, and now they had no less than 1,200 children alone attending school. In the year 1851 the present gaol was opened, and for 8 or 9 years afterwards the number of prisoners averaged 100 yearly, but since then the number was very few indeed, and he attributed the cause of this to the attention paid to the education of the young. Mr. Payne then took hold of the trowel and spread the mortar, the stone was lowered into its place, the square, plumb and level were artistically applied, a sufficient number of blows were given with the mallet, and Mr. Payne pronounced the corner stone laid. Rev. Mr. McColl said that it was a matter of great thankfulness that the schools were in such a good condition as described by Mr. Payne. From the time that he had been connected with the schools he could testify to the anxiety of all members of the board to do the best in their power for all parties. He was glad to see that the school, the corner stone of which was then laid, was to be erected in such a commodious and suitable place. The chairman then proposed three cheers for the Queen, leading off himself, which having been given, the ceremony was over. The Trustees afterward treated the contractors, workmen and visitors to an excellent lunch of ale and bread and cheese, on the ground. The stone is in the north-east corner of the entrance porch, and the figures 1873 are engraved upon it in bold relief. In a galvanized iron box, hermetically sealed and placed in a cavity in the stone, has been deposited a sheet of parchment on which is engrossed the following:—"This School House was erected in the year of Our Lord one thousand eight hundred and seventy-three, in the 36th year of Her Majesty's reign; His Excellency

Lord Dufferin, K.C.B., &c., &c., Governor-General of the Dominion of Canada; His Honour W. P. Howland, Lieutenant-Governor of Ontario; Rufus Stephenson, Esq., M.P., and James Dawson, Esq., M.P.P., County of Kent; Robert Lowe, Esq., Mayor of the Town of Chatham; Thomas McCrae, Esq., Police Magistrate, Commission dated 1855; Alexander Brown Baxter, Wm. McKeough, James A. Holmes, Tecumseh K. Holmes, M.D., Daniel R. Van-Allen and Robert K. Payne, Esquires, Public School Trustees; Rev. A. McColl, Inspector; David Smith, Esq., Secretary; Wm. Gonne, Esq., Architect, and Messrs. James Baxter & Co., Builders. The population of the town of Chatham, 6,500; number of children attending schools, 1,200; five School Houses; fifteen teachers; one High School; two Roman Catholic Schools—separate."—*Chatham Planet*.

4. ROMAN CATHOLIC SCHOOL PIC-NIC, CHATHAM.

A GREAT SUCCESS—OVER 1,500 PERSONS PRESENT.

The Grand Pic-Nic in aid of the funds for the erection of a new Separate School in Chatham came off in McGregor's Grove, near the town, on Wednesday last, and proved to be one of the most successful affairs of the kind we remember. By eleven o'clock, a.m., there were assembled beneath the shade of the trees in that popular rendezvous fully fifteen hundred people, of all creeds and origins, from town and country—amongst them being many from Windsor, Sandwich, Wallaceburg, Dresden, Thamesville, Blenheim, and other distant points—all bent upon a day's enjoyment. The *coup d'œil* was, indeed, very pleasing and picturesque, with the innumerable carriages, waggons, &c., encircling the chief points of attraction. D. Mills, Esq., M.P., spoke for a considerable time, taking for his subject the importance to all of good education, and showing the advantages the young now possessed in obtaining it. His remarks were interspersed with anecdotes. R. S. Woods, Esq., was next called upon and introduced by the chairman. Mr. Woods spoke at some length, and his remarks were well received by the immense assemblage. The third speaker was Mons. J. A. Foisy, who was introduced by the chairman in English as well as French, and delivered a lengthy address in French, on education and nationality, enjoining his compatriots never to cease cultivating their own native tongue, which was one of the most useful as well as elegant of modern languages. He regretted to find that many Frenchmen, when they settle in this country, allow their children to acquire the English language almost exclusively, taking no trouble to have them also taught their native tongue, which should not be. Dr. Holmes next spoke shortly on the same subject, and he was followed by Jos. Northwood, Esq., who approved of this movement to increase the educational facilities of the town, and said he would use his influence with the Council in procuring a grant for the new school. W. S. Stripp, Esq., then spoke at some length, and well, upon the general subject of education. R. Stephenson, Esq. M.P., briefly addressed the audience, expressing the great pleasure he had in being present on such an interesting occasion, late though it was. His remarks were well received. At the intervals in the delivery of the speeches, the old Chatham Cornet Band neatly executed several popular airs, which gave general satisfaction. A novel proposition was then made, that the audience should intimate their ideas of the party who made the most effective speech by subscribing in his name toward the school fund, he in whose name the largest amount was raised to be presented with a handsome walking cane, exhibited by the chairman. Two names were given in, viz.: R. S. Woods and D. Mills, and, the hat having been taken round in name of each, the former received \$11.50, and the latter only half a dollar. Therefore, it was decided that the speech of Mr. Woods was that of the day, and the cane was handed to Mr. Salter for presentation to him, and that that was done well may be taken for granted. This most successful *fête* broke up at six p.m.—*Chatham Planet*.

III. Papers on General Educational Subjects.

1. NECESSITY FOR RAISING TEACHERS' SALARIES.

We are glad to hear that the question of salaries has been referred to a Committee of the Board of Trustees to report at the next meeting. The City Council very properly took into consideration the salaries of their officials, and raised them so as to bring them into greater conformity with the advance that has taken place in all the necessities of life. Every one knows and admits that any salary, say of \$500, \$700, or \$1,000, is a very different thing to-day, as a means of providing for a family, from what it represented only a short time ago. Neither need we look upon the change that has taken place in the purchasing power of these sums as of only

a temporary nature. The causes, when examined and understood, will be found of a permanent character, and the depreciated value of the precious metals renders imperative a re-arrangement of many of our social relations.

Almost all the cities and towns in the Province have already, through their school corporations, enquired into the condition of their teachers as respects remuneration, and the consequence, without an exception so far as our knowledge goes, has been a handsome increase to the salaries of those hard-worked, under-paid, and most important officials. From Ottawa to Goderich the work has been undertaken, the inadequate remuneration admitted, and in many cases a handsome addition has been made to the salaries of the teachers; and in others, while less has been done than the case required, the first step has been taken to remedy the mistake. All are alike ready to admit the necessity of economy in the management of our civil affairs, but the exercise of economy requires judgment, in order to bring a blessing in its train. It is no economy, but a principle unsound in every particular, by which the ablest members of this most valuable profession would be either driven out of it altogether, or remain in it in a state of chronic discontent.

The salaries at present paid in the High School are not so far below the mark as compared with similar situations elsewhere. But in our Public Schools the pay is so miserably insufficient as to reflect no credit upon the Board that continues the system. The salary of the highest male teachers is only \$600 per annum, and the second \$550, and this latter paid to a young gentleman whose attainments will procure him ere long, if he seek a change, nearly double the sum. Then the young ladies are worse paid still. Just fancy a young lady possessing a first-class certificate from the Normal School, who has laboured under the Board it may be for six or seven years, paid the wretched pittance of \$275 a year, while the same attainments, general qualification and experience would command, elsewhere, from \$400 to \$600 per annum. It is not a pleasant thing to say, but in the interest of the people—still more in the interest of the teacher—it ought to be said, the depressing influence of such palpable want of appreciation of their labours, on the part of the Board and the public, would cool the ardour of the most enthusiastic teacher, and gradually beget a feeling of indifference as to the result of their professional labours.

We feel convinced the people will sustain the action of the Board and the Committee in raising these salaries. Let London, therefore, follow the example set by most of the other cities and towns in the Province, and let the Board so pay their employees as to enable them to live, as comfortably and respectably as their social position requires. We don't wish that those to whom is entrusted the training of our children, as regards their mind, their morals, and their manners, should be called upon to do so at the sacrifice of the best part of their own lives. As it stands now, a servant girl would turn up her nose at the remuneration of the best paid teacher in our Public Schools. Is this the proper position for a teacher to occupy? Is this state of things likely to produce that self-respect, that pride in their profession, and that enthusiasm in their work—all necessary elements in the constitution of the successful teacher? The duties are onerous enough, and the labour trying enough, without the depressing influence and gnawing care of insufficient means. The latter the Board can remove altogether; the others they can materially lighten by kindness, consideration, and by showing that they possess a just sense of the importance and magnitude of the work in which the teachers are engaged.—*London Free Press.*

2. REMUNERATION OF PUBLIC SCHOOL INSPECTORS.

The following remarks of the Hon. Mr. Bateman, State Superintendent of Education, on Inadequate Remuneration of Public School Inspectors, we heartily endorse:—

"The average annual compensation of county superintendents is much less than is paid to the principal of the better class of Public Schools. It ought to be increased; it would be in the highest sense economy to increase it. The trouble is even yet that well qualified men cannot accept the office without a pecuniary sacrifice—several of our present corps of superintendents are of that class. They could at any time enter other departments of the service, and receive larger remuneration. But I am profoundly grateful to the representatives of the people for what has been done. Fair wages and strict accountability is the maxim that should control in all public affairs. No man more honestly earns his pay than a qualified and faithful county superintendent of schools. I proclaim again that county superintendency is the right arm of our school system—its strongest living element of power—the most closely identified with its future progress and development. No more disastrous blow could be aimed at the system than one directed at the life of the superintendency. Let the right man be chosen in

every county, and the thought of such an assault could not be entertained."

3. MEANS OF COMPULSORY EDUCATION.

At a late National Education Convention in the United States, the following resolutions on compulsory education were adopted:—

Resolved,—“That universal education is a public necessity, and that the State has the full right to provide for and secure it.”

Resolved,—“That to secure universal education in this country, our present system of voluntary school attendance should be supplemented by truant laws, reformatory schools, and such other compulsory measures as may be necessary to reach that class of youth now growing up in ignorance.”

4. THE TRUE REMEDY FOR COMPULSION.

The State Superintendent of Education in Pennsylvania, in a recent report, thus forcibly illustrates the true remedy for “compulsory” education. It is useless to speak of compulsion if our schools are inefficient or unattractive. The only substitute for compulsion is good, attractive and pleasant schools. The Superintendent says:—

“After having carefully considered this delicate and difficult subject, I have about reached the conclusion that we must first do what remains to be done in the way of providing good school grounds, good school-houses and good teachers for our children, and we have yet much to do in this direction; and then supplement our present voluntary system by enactments as follows:—

“1st. A judicious truant law. 2nd. A judicious law, preventing the employment of children in mines, manufactories, etc., without some provision for their education. 3rd. A law authorizing boards of directors in cities and large towns to appoint and pay, when needed, a school missionary, to visit the parents of children not in school or attending irregularly, and endeavour to secure their attendance. 4th. A law legalizing, if not requiring, the establishment of a home for friendless or neglected children in every county in the Commonwealth, and giving the boards of directors of the several school districts power to send to these institutions such children as the safety of society might justify being disposed of in that way. These homes should be established, supported and managed by the same authorities that have the care of the alms-houses, aided, perhaps, at first, by appropriations from the State. They should provide maintenance and clothing, as well as instruction, for the children. They should train the children up to habits of industry, and whenever suitable opportunities presented themselves, they should place them in good families or where they can learn a useful trade.

“A compulsory law, even if fully enforced, cannot bring into the schools children suffering for want of food, clothing, or shelter; children who must work or steal in order to live; children who have no parents or friends to care for them; and a large proportion of those growing up in entire ignorance are of this class. The county home is just the place for them, and tens of thousands might, by its means, be plucked like ‘brands from the burning,’ and made good members of society. I have almost unbounded faith in the effect of good influences upon the character of the young. I believe most firmly that if all the ignorant, vicious boys and girls in Pennsylvania could be at once brought into properly managed homes of the kind just spoken of, nineteen out of every twenty could be made good men and good women—good members of society. If society is ever reformed, it will be done in this way. If the evils we complain of and suffer under are ever removed, or ever rooted out, it will be effected by the right education of the young.”

5. THE MORALITY OF PUBLIC EDUCATION.

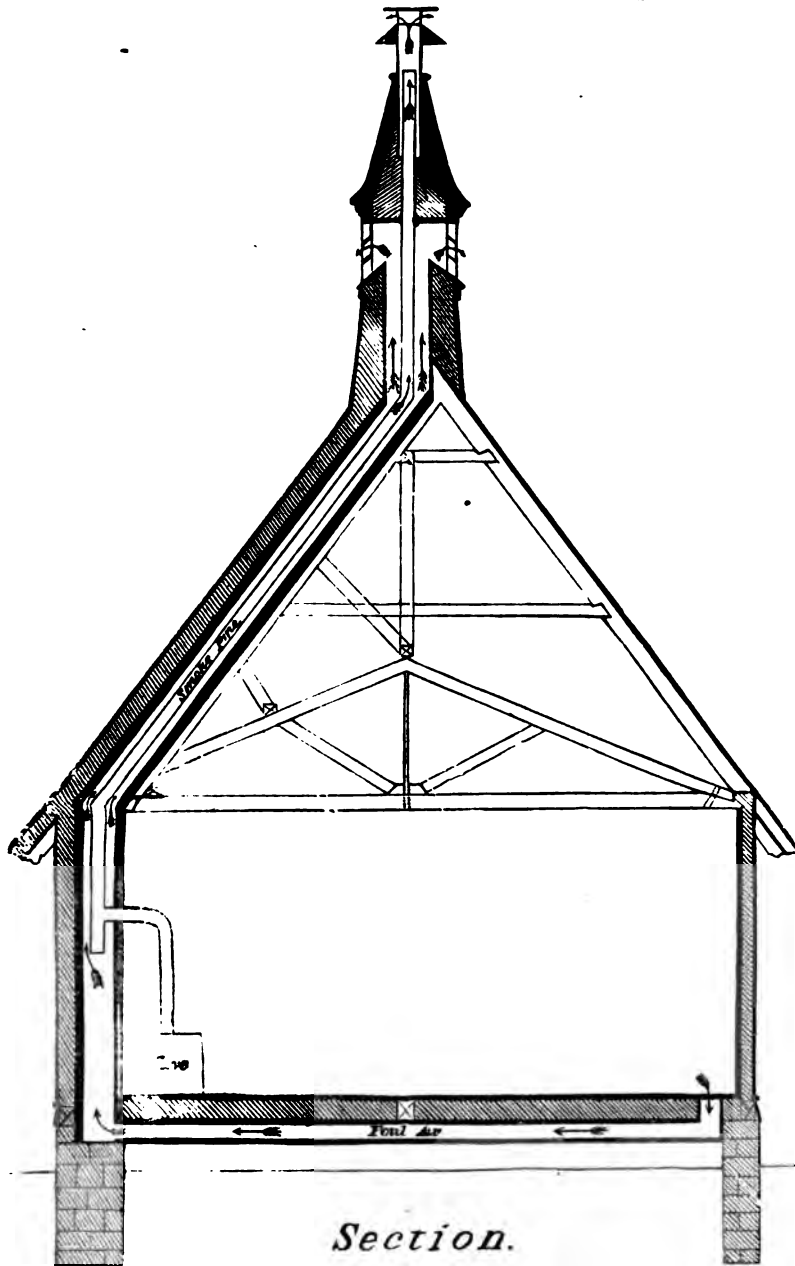
In the Report of the Washington Schools we find a paper by Mr. Harris, which closes with a brief reference to the question of discipline the morality of public education, as follows:—

“The discipline of our public schools, wherein punctuality and regularity are enforced, and the pupils are continually taught to suppress mere self-will and inclination, is the best school of morality. Self-control is the basis of all moral virtues, and industrious habits are the highest qualities we can form in our children. A free, self-conscious, self-controlled manhood is to be produced only through universal public education at public cost; and as this is the object of our Government, it is proper for our Government to provide this means, and at the cost of the people.”

IV. Improved School Architecture.

VENTILATION OF SCHOOL BUILDINGS.

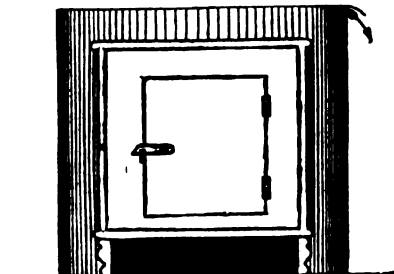
We insert in this Number of the *Journal* several Plans prescribed by the New Brunswick Board of Education for the improved Ventilation of School Houses. We hereby commend these illustrations with the accompanying specifications.



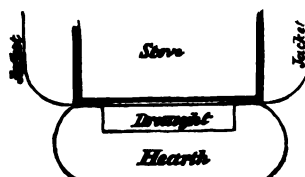
SHOWING ARRANGEMENT OF HEATING AND VENTILATION.

SPECIFICATIONS FOR VENTILATION AND HEATING.

The ventilating shaft to be finished above roof as shown in drawings, the sides to have openings fitted with Louvre slats; the slats on one side, and one centre post, to be removable, and this post to be fixed in place with screws. The roof to



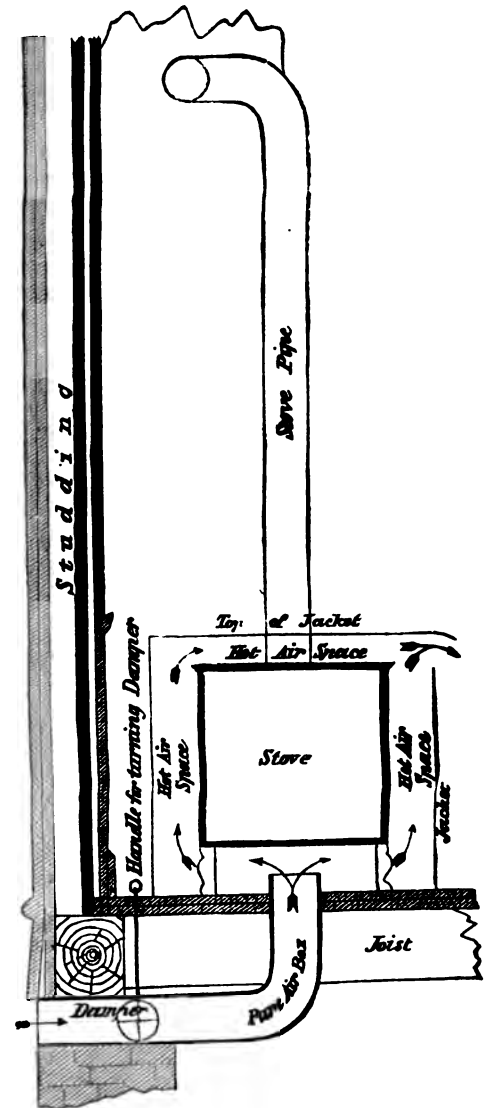
ELEVATION OF FRONT PART OF STOVE, SHOWING FITTING OF JACKET.



PLAN OF FRONT PART OF STOVE, SHOWING FITTING OF JACKET.

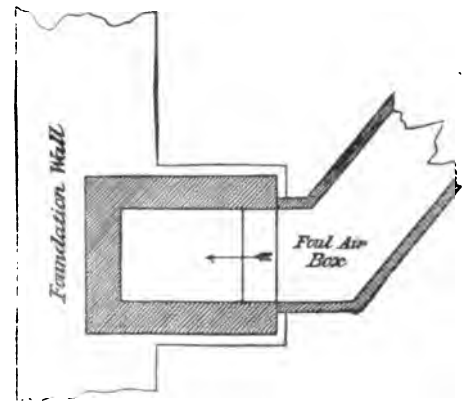
be shingled and to have a galvanized iron smoke cowl 12 in. in diameter, securely fixed and made tight to roof.

Provision to be made in *each** school-room, and *class-room*, for drawing off the foul and cold air by means of 8 in. by 12 air-tight wooden or other tube secured to the underside of the floor joists, and fitting



SECTION THRO. STOVE, ETC., SHOWING PURS AIR PIPE AND JACKET.

air-tight into *each** ventilating shaft; *each** foul air-tube to have an opening into room at the end opposite entrance into ventilating shaft; this opening to be made in the floor close to the base-board, and fitted



PLAN AT BOTTOM OF VENTILATING SHAFT.

with a register to open or shut at pleasure, and connected air-tight with the tube under the joists.

A circular opening to be made in the ceiling of *each** school-room and fitted with register, having a cord carried above ceiling joists and in the wall to platform, so that the Teacher may open and shut at pleasure. A clay, sheet iron, galvanized iron, or other unflammable pipe, to be provided for supplying PURE AIR to *each** stove, connecting with the outer air through the foundation wall, and carried up through the floor directly under and to within 3 in.

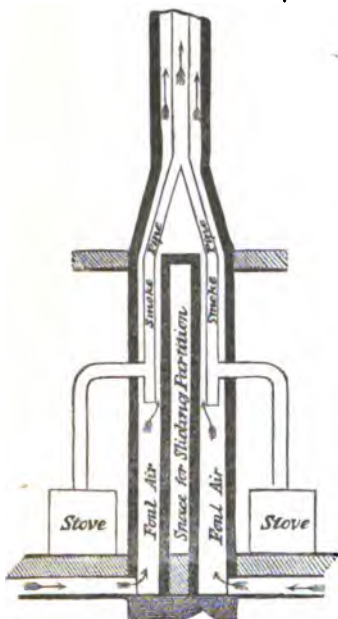
of the bottom of the stove. This pipe to be fitted with a damper with rod coming through the floor close to the base-board, to regulate supply of air.

[*Each** stove is to be fitted with a common sheet iron or galvanized iron jacket, leaving a space of 6 in. on all sides between it and the stove, except about the door and draught, where it is to be turned in all around close against the stove. This jacket to fit tight to the floor, and to have a cover open 3 in. for the escape of hot air into the room on one side only, that next the Teacher's desk; the cover to project over the opening and to bend downwards. The jacket is to be carried up to the cover on the side above the stove door, and also on the other two sides; the stove pipe to pass through the cover or jacket, and to be fitted tight into the smoke-flue.]

PAINTING.—The whole of the outside woodwork to be painted three coats of the best London white lead in linseed oil as required, the last coat to be of such colours as shall be directed.

The interior woodwork to be stained, and varnished one coat.

The roofs to have one coat of coal tar or mineral paint.



PLAN AND SECTION OF VENTILATING SHAFT FOR DESIGN, No. 5.

V. Papers on Education in Various Countries.

1. EDUCATIONAL PROGRESS IN RUSSIA.

The Russian papers are very busy just now in discussing educational questions. According to the *Russian World*, the sums expended in education in the Empire are out of all proportion to the results achieved. In the Imperial Budget 28,000,000 roubles (£3,500,000) are appropriated for this purpose, besides the local contributions from each province; yet the number of schools is far too small to meet the educational requirements of the country, and the want of teachers is even greater than that of schools. In the nine universities of the Empire 202 professorships out of 622 were vacant at the beginning of the present year, and in the middle schools there were only 1,903, instead of 2,102, the number borne on the establishment. The *St. Petersburg News* points out that in "the Governments of the Vistula" (Poland), on the other hand, education is progressing in a remarkable degree. Besides the elementary schools, these governments now possess eight special schools for training schoolmasters. These special schools contain more than 500 pupils, all belonging to the peasant class, and they have already trained 250 young men who are employed as masters in the national schools. The *Moscow Gazette* treats the same subject from a different point of view. It ridicules the expectation of the International Society to find a favourable field for its labours in Russia. "Our country," it says, "is so situated that it can afford no scope for those social problems which agitate the masses elsewhere on the European Continent. Each individual, as a rule, finds himself able easily to obtain the means of existence. Conscientious and assiduous labour is always sought and well paid for in Russia.

Moreover, hired labour does not with us constitute the exclusive profession of distinct classes. The immense majority of our workers is composed of villagers with a certain amount of property in land, who work as artisans, &c., in order to increase their means." The only people who are attracted by Socialism in

Russia, adds the *Gazette*, are the students, as the Netchayeff trial proved; and it attributes the attraction to a defective system of education.—*Pall Mall Gazette*.

VI. Papers on Practical Education.

1. PREPARATION REQUIRED IN THE TEACHER.

No less important than a resolute, sincere purpose, is an intelligent preparation for the work of teaching. One great defect in our teachers is, that they are too much inclined to avail themselves of the appliances by which teaching is made easy. Nothing is more fatal to good teaching. Let the teacher make use of text-books, manuals and the like, to simplify tasks for his pupils, as far as he thinks judicious, but he should train himself to an absolute independence of them, rather than an easy use of them. An intelligent teacher will no more lean upon such supports, than a well man will walk with crutches. The best remedy for this trouble would be the providing of higher instruction for teachers. Am I unjust in saying that even the normal schools are not up to the needs of the time?—*Professor Agassiz*.

2. MONTHLY EXAMINATIONS IN SCHOOLS.

The practice of marking the recitations of pupils has been discontinued in a considerable number of schools in Ohio, and written examinations, usually occurring monthly, have been substituted to determine the pupils' progress. We have taken some pains to ascertain how this change has affected the daily preparation of lessons. The general testimony is that the examinations are as effective freedom of both teachers and pupils has improved the character of the recitations. The teachers are less narrow and text-bookish in their instruction, and they give increased personal attention to those pupils who were not doing satisfactory work. Much, of course, depends on the spirit of the school and the manner in which the teachers do their work. When the time of examination is announced several days in advance, and the intervening time is devoted to the special preparation of the class for the ordeal, pupils learn to depend on this cramming, and there is less faithfulness in daily study. Examinations are most constant and effective as an incentive when they are held without previous notice and are made a test of the pupil's daily work. They are a poor incentive when the vigorous crammer stands higher than the faithful student.—*National Teacher*.

3. TEACHERS IN THE JUNIOR CLASSES NEGLECTED.

There is a work waiting to-day for the intelligence of the young women all over the country—a work so important that if they could rise to a sense of it, it would go far to mitigate the public evils from which we suffer. This is the true education of the young. It is a crying sin and shame that though so many years have elapsed since Miss Elizabeth Peabody first introduced the German idea of the Kindergarten to this country, we have as yet no schools or school systems based upon it—that the old methods are still followed—and the old sing-song routine and text-book formulas still used, as patent extinguishers upon the child's brains, if it should happen to have any. Where are all our bright young girls that they do not study out a Kindergarten system for themselves, with the aid of books and objects already provided, and start Kindergarten schools all over the land, in cities and country?—schools where the system of teaching shall be principally oral and illustrated by pictures or specimens of the subject—where the recitations shall be varied by physical exercises—where music and singing shall form a necessary part of the programme, and where self-development, growth in ideas, and beauty and power of expression, shall denote excellence in scholarship, not the mere parrot-like repetition of words, or the faculty of holding the shoulders at an acute and painful angle. For these schools—enlivened by beauty, by the cultivation of flowers, inspired by genius, and a real love for the work—children are everywhere waiting. They might not bring great emoluments, but they would bring a worthy purpose, honourable livelihood, and distinction to those who are capable of achieving their highest possibilities. Those who talk of work as if there was nothing for them to do, only show their own incapacity—there is plenty of work, good work, waiting for those who will do it truly and well.—*Jennie June*.

VII. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for August, 1873.

OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Straug, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—George Dickson, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., L.L.B.; Windsor—J. Johnston, Esq., B.A.

STATION.		Eleva- tion. a		BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT										TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
				MONTHLY MEANS.					Range.		MONTHLY MEANS.			DAILY RANGE.		HIGHEST.		LOWEST.		WARM- EST DAY.		COLDEST DAY.				MONTHLY MEANS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
North Latitude & West Longitude.		Above the Lake. Above the Sea.		7 A.M. 1 P.M. 9 P.M. MEAN.		Highest.		Lowest.		Range.		Greatest in 24 hours.		Date.		Monthly.		Greatest.		Mean Range.		Mean Minimum.		Mean Maximum.		Mean Range.		Lowest.		Reading.		Date.		Mean Temp.		Date.		Mean Temp.		A.M. 1 P.M. 9 P.M. MEAN.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
North Latitude & West Longitude.		Inches.		Ft.		423		176		29° 85' 92		29° 82' 36		29° 83' 30		30° 06' 55		7 a.m.		5° 29' 420		1 p.m.		

a Where the clouds have contrary motions, the higher current is entered here.

b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

CORNWALL.—Thunder with rain, 1st, 30th. Lightning and thunder with rain, 2nd, 31st. Wind storms, 30th. Fogs, 4th, 27th. Rain, 1st, 7th, 12th, 15th, 16th, 19th, 23rd, 26th, 31st.
 BELLEVILLE.—Lightning, 11th. Lightning with thunder, 12th. Lightning and thunder with rain, 23rd. Very dense fogs, mornings of 20th and 21st, ending 7 a.m. Rain, 1st, 7th, 11th, 13th, 16th, 19th, 20th, 22nd, 23rd.
 BARIE.—Thunder, 11th. Lightning and thunder with rain, 12th, 21st. Rain, 2nd, 7th, 11th, 12th, 16th, 21st, 24th, 25th.
 PETERBOROUGH.—Lightning, 11th, 21st, 22nd (evening). Thunder, 22nd (morning). Lightning and thunder with rain, 31st. Fog, 29th.

16th, 20th, 21st, 22nd, 24th, 29th, 30th, 31st. Lunar rainbow, evening of 7th.
 STRATFORD.—Lightning, 27th. Lightning with thunder, 21st. Lightning with rain, 31st. Lightning and thunder with rain, 12th, 22nd, 25th. Fogs, 19th, 26th, 30th. Rain, 2nd, 11th, 13th, 16th, 22nd, 28th, 31st. Excess of mean monthly temperature over average of August 12 years—+ 1° 31.

16th, 20th, 21st, 22nd, 24th, 29th, 30th, 31st. Lunar rainbow, evening of 7th.
 STRATFORD.—Lightning, 27th. Lightning with thunder, 21st. Lightning with rain, 31st. Lightning and thunder with rain, 12th, 22nd, 25th. Fogs, 19th, 26th, 30th. Rain, 2nd, 11th, 13th, 16th, 22nd, 28th, 31st. Excess of mean monthly temperature over average of August 12 years—+ 1° 31.

HAMILTON.—Lightning, 21st, 22nd. Lightning and thunder with rain, 15th. Wind storm, 15th. Rain, 2nd, 4th, 11th, 15th, 16th, 23rd, 25th. Meteor, 19th, 20th, 23rd, N. moving W.

SIMCOE.—Lightning and thunder with rain, 24th. Wind storm, 23rd. Rain, 16th, 18th, 19th, 24th, 25th, 26th, 29th, 30th. An agreeable month. Crops promise more than average, except potatoes injured by the bug, which is also now attacking tomatoes and other vegetables.

WINDSOR.—Lightning, 10th, 11th, 22nd, 26th, 27th. Lightning and thunder, 7th. Lightning and thunder with rain, 21st. Wind storm, 13th. Fog, 30th. Rain, 12th, 21st. Three meteors, 11th and ten on 12th. Meteor through Sq. of Pegasus towards H. and one towards S. on 14th. One through Z. towards S. W., 18th. One in S. E. towards H., 19th. One in S. towards W., and one in W. towards H., 23rd.

VIII. Mathematical Department.

To the Mathematical Editor of the Journal of Education.

Sir,—I notice by the June number of the *Journal*, which has just come to hand, that you wish to "shut down" on "Interest that is interesting." Before you do so, permit me, in justice to myself, to offer a parting remark on the criticisms so liberally bestowed on my humble article by yourself and others, many of which related, not to my subject, but consisted in attempts to show that my answer was not correct according to the principles of compound interest, a fact which I never denied, though to prevent so uncalled for a piece of trouble I italicized and used as plain Queen's English as I could command. Some of my critics, and notably Mr. Scudamore, in true keeping with the rigid niceties of the pedagogue, discard such time-honoured institutions as Simple Interest, and tax "poor me" with asking for the solution of impossibilities, with being old foggy enough to suppose, as men of sense generally do, that "it's a poor rule that won't work both ways," and with believing in such absurdities as simple interest annuities.

That the subject is beset with fallacies on every hand the complicated investigations of many an able actuary give ample testimony, yet, notwithstanding Mr. Scudamore's bewildering array of "constructions," "approximations" and "functions," I fail to see how any one can for a moment deny the existence of *Simple Interest*.

And certainly, the convenience with which we can reckon the interest of a given principal for a given time and rate, may warrant its continuance, for when we say that $I = Prt$, what do we mean but that R the amount of \$1 for a year compound interest $= \sqrt[14]{1 + rt}$. So that if I consider that a dollar should amount to R per annum, I may reckon either by compound interest from the formula $A = Pr^t$, or determine r from the equation $R = \sqrt[14]{1 + rt}$, and say $A = Prt$ and A will be precisely the same in both cases. Whence then the fallacies? From nothing else but from supposing R and r to remain constant for varying values of t . Into such errors many of my critics have fallen, Mr. Glasahan accepting my questions as extremely easy, and swallowing whole the absurdity "lurking" in the data, while others pronounced me wrong only to flounder through processes full of fallacies.

Now for the correct solution. Evidently $1000 = 160(R^{-1} + R^{-2} + \&c. + R^{-10})$ where R from its very essence is constant; consequently the r of Mr. Howell's analogous formula is variable, though he supposes it constant, and, of course, gets the wrong answer. Let x be the equated rate from the variables P and r .

$$x = \frac{4}{25} \left(\frac{1-R^{-1}}{1} + \frac{1-R^{-2}}{2} + \&c. \right) + \frac{1-R^{-10}}{10}$$

whence $100x = 11.6436672$ + the required rate.

This, I think, settles the matter beyond cavil.

I remain,

Yours truly,

JOHN CAMERON.

Arnott, Ont., 14th Aug., 1873.

In giving Mr. Cameron the privilege of "firing the parting shot," the following remarks, from the celebrated Augustus De Morgan, may be interesting to our mathematical readers:—

"Some writers have defined the present value, estimated at simple interest, of an annuity to continue any number of years, to be that sum the amount of which would, in the given number of years, be equal to the amount of the annuity. But the sum thus obtained is not the present value of the annuity, but of the amount of the annuity after the given number of years. This amount is,

$$nA + n \times \frac{n-1}{2} \times rA, \text{ and } P_1 \text{ being the present value,}$$

$$P_1 \times (1 + nr) = nA + n \times \frac{n-1}{2} \times rA, \text{ or}$$

$$nA + n \times \frac{n-1}{2} \times rA$$

$$P_1 = \frac{nA + n \times \frac{n-1}{2} \times rA}{1 + nr}, \text{ which differs from } P \text{ the present}$$

value of the annuity, as would be shown by substituting any number greater than unity for n in the values of P and P_1 . The meaning we give to the expression present value would naturally lead us to expect the two quantities P and P_1 to be equal. Their inequality is the strongest proof of the inadequacy of a mode of calculation, like that of simple interest, which, as it were, sets a mark upon any sums of money that may have accrued by way of interest, and forbids their future accumulation. The reason of their inequality is easily explained. Suppose p to be the present value of \$ m due in one year. Then $p = \frac{m}{1+r}$, and let us suppose m to be unpaid for a second year and charged with interest; it amounts to $m(1+r)$. But p in two years amounts to $p(1+2r)$, or to $m \frac{(1+2r)}{1+r}$, which is different from the amount of m , and the reason is, because p , the interest on p for the first year, is not charged with interest for the second year; and, therefore, in one case m was charged with interest, and in the other only p . Therefore p , which is the present value of m , is not the present value of the amount of m after any number of years."

$$\text{Finally, } P_1 = \frac{nA + n \times \frac{n-1}{2} \times rA}{1 + nr}; \text{ Put } n = 10, A = 160,$$

then we have, $28r = 6$ and $r = \frac{3}{14}$, multiply by 100 and $r = 21\frac{3}{7}\%$,

the result which has caused so much alarm. Mr. Cameron, then, is not the originator of the fallacy.

MATHEMATICAL EDITOR.

IX. Biographical Sketches.

1. THE RIGHT REV. BISHOP FARRELL.

His Lordship was born in the City of Armagh, Ireland, on the 2nd June, 1820, where he resided until, with his family, he emigrated thence to this Province, and settled in the City of Kingston, in the year 1830, where the family have ever since resided.

After pursuing his studies for some time at Kingston, he was sent by the late Bishop Macdonnell to the College of St. Sulpice, at Montreal, where he remained till he completed his classical course. From this institution he entered the Sulpician Seminary, under the direction of the same Order, and remained there till the completion of his theological course. During his whole career both at the College and the Seminary he evinced great talent, and was pointed out as one who would make his mark. He had a large head and large mind, as well as a large Irish heart, which endeared him to the professors and his fellow-students, as well as to all who had the privilege of his acquaintance in after life.

On leaving the Seminary he was ordained priest at Montreal, in May, 1846, and returned to his Bishop at Kingston, shortly after which, although young, his Bishop appointed him parish priest of L'Orignal. After remaining at that station for about two years he was recalled to Kingston, where he spent some seven years, two of which he was a Professor in Regiopolis College. In this latter sphere he had an opportunity, which he did not lose, of showing not only his scholarship, but his great administrative ability, which marked him out for early promotion in his Church.

From Kingston his Bishop, as a further token of appreciation of his genius for organization and discipline, appointed him parish priest of the Town of Peterboro', where he remained, governing the parish and discharging, with zeal and untiring energy, the duties of his sacred calling, as the Catholics of Peterboro' will remember to this day; and which was beautifully and warmly expressed by them in a congratulatory address which they presented to him on his withdrawing from the pastoral charge of that place after being called to the See of Hamilton.

In the year 1856, the Roman Catholic Diocese of Toronto, being considered too large for the charge of one Bishop, was divided into three dioceses, that is, Toronto, Hamilton and London; and by the unanimous voice of the Prelates of the Roman Catholic Church in Canada, the Reverend John Farrell, Parish Priest of Peterboro', was declared to be fully worthy and competent to bear rule over one of the newly constituted dioceses. Accordingly his name, with that of the Right Rev. Dr. Pinsonneault, was sent to Rome for the approval of the Pope, and by virtue of "Letters Apostolic" of the Sovereign Pontiff the office of Bishop of the Diocese of Hamilton was conferred upon him, and he was consecrated in the Catholic Cathedral of Kingston, on the 11th May, 1856.

His Lordship arrived in Hamilton on the 24th of May of the same year, and was most cordially and affectionately welcomed to his

new See by his old friend and preceptor, the late lamented Vicar General Gordon, whom he at once appointed his Vicar General, an office which the good old priest held to his death.

In March, 1862, he made his first official visit to Rome; and again in April, 1866, he left this city for Rome to take part in the ceremonies of the 18th centenary of the martyrdom of Saints Peter and Paul. His last visit to Rome was in the fall of 1869, where he went to attend the Vatican Council.

On the occasion of his return from Rome, in August, 1870, he was met at the railway station by the whole Catholic body of the city, old and young, male and female, and presented with an address of welcome, accompanied with a magnificent carriage and pair of horses.

As his Lordship was driven through the streets, followed by a large procession, many were the expressions of welcome which greeted him from our fellow-citizens of various denominations—thus testifying their appreciation of him as a citizen and a friend.

For our fellow-citizens who knew and appreciated his lordship, we need not attempt to draw a character of this truly good and—we may even say—great priest and good loyal subject and citizen. Those who had the privilege of an intimate personal acquaintance with him will not need any words of ours to paint his character. His whole life was devoted to his duties as Priest and Bishop, and, indeed, his devotion to the former in no inconsiderable degree shortened his days of usefulness, and left a blank not easily filled up. During his whole ministrations in Hamilton, and even when on tours of visitation through his diocese, he never shrunk from the most arduous duties of the simplest priest. And neither pestilence, danger nor fatigue ever made him halt at the call of duty. A striking instance of this is within the recollection of the writer. When the Fenians made their raid into this Province in 1866, the 16th Regiment, then stationed in this city, was suddenly, as we all recollect, ordered to the Niagara frontier. In this regiment were a large number of privates belonging to the Bishop's faith, and fearing that some of them had not complied with the rules of their Church, he started with them on the train, exhorted them to make their peace with God, and be prepared to die, if need be, like true soldiers. He followed the regiment, prepared to do his duty as a priest in the field of battle, if so required. He was made of the stuff of which good priests and good soldiers only can be made.

When his death was announced yesterday, a deep feeling of grief was expressed by all classes of our citizens, and, as a mark of respect for the remains of Bishop Farrell, flags were displayed at half-mast on the public buildings and wholesale warehouses in the city.

His manly form and genial smile will be welcomed no more on our streets; and many will say, in the language of the late lamented D'Arcy McGee, "Where shall we find his equal—where?"—*Hamilton Spectator*.

2. THOMAS SAUNDERS, ESQ.

The late Mr. Saunders was a native of England, having been born in Buckinghamshire on the 28th of February, 1795, being at the time of his death in his 79th year. Mr. Saunders married in 1829, and shortly after went to Bombay, India, where he was engaged in commerce, firstly as agent for a London house, and was afterwards offered partnerships by some of the best houses in India and London, who were well acquainted with his upright business habits. However, he decided on leaving India, and came to Canada in the year 1832, and, with many other gentlemen who came to this country at the same time, took up his residence in this neighbourhood. He purchased a farm in Puslinch, and devoted himself to agriculture. Many of the readers of this notice will look back with pleasant memories to happy days spent at "Woodlands," where the hospitalities of a happy home were ever extended by the Colonel and Mrs. Saunders to a large circle of friends. Of that band of settlers who came to Guelph in 1832 we believe there is only one survivor, namely, Archdeacon Palmer.

Soon after his arrival in Canada he was gazetted Colonel of Militia for the Counties of Wellington, Waterloo and Grey, a position for which he was well qualified, and which he filled to the day of his death with unvarying zeal and attention, and greatly to the satisfaction of the authorities and to those who had the pleasure of serving under him. In the rebellion of 1837 he took a part as a loyal soldier and gentleman in the defence of his adopted country. In those early times Mr. Saunders filled the important position of Crown Prosecutor, now occupied by the County Crown Attorney, and he was also Chairman of the Court of Requests for some time. In 1840 he was appointed Clerk of the Peace, and was the oldest public official in the County. Both in his public and private life he was held in the highest esteem by those who knew him. Unswerving integrity and stern rectitude, with an utter con-

tempt of anything mean or dishonourable, were the characteristics of his life. Mr. Saunders was Inspector of Inland Revenue for many years, and occupied several places of trust in the County and under the Government, all of which his straightforward and upright character enabled him to discharge with credit to himself and advantage to the country.—*Guelph Herald*.

X. Miscellaneous.

1. AUTUMN DAYS.

Yellow, mellow, ripened days,
Sheltered in a golden coating;
O'er the dreamy, listless haze,
White and dainty cloudlets floating;
Winking at the blushing trees,
And the sombre, furrowed fallow;
Smiling at the airy ease
Of the southward-flying swallow:
Sweet and smiling are your ways,
Beauteous, golden Autumn days.

Shivering, quivering, tearful days,
Fretfully and sadly weeping;
Dreading still, with anxious gaze,
Icy fetters round you creeping;
O'er the cheerless, withered plain,
Wofully and hoarsely calling;
Pelting hail and drenching rain
On your scanty vestments falling:
Sad and mournful are your ways,
Grieving, wailing Autumn days.

2. AUTUMN DAYS.

It would be difficult to go back now and say just exactly when the first of the autumn days made its appearance. We know they are upon us now, but the Almanac is never absolutely true as to their advent. Thoreau tells us how, while camping out one night in August, he heard the wind begin to pipe through the woods in a new strain, while a great bustle and commotion arose among the trees, like a lady hastily turning over her bureau drawers. It was summer at twelve o'clock that night, but by one autumn had arrived. So there comes a day or night when nature seems suddenly to turn a new leaf, and the old summer is gone. Yet for weeks there comes back occasional breaths of the summer breeze to relieve the drearier autumn winds, and an occasional ray of the summer sun to lighten the chilly autumn days. It is this blending of the departing summer with the coming winter that makes the autumn season one of such surpassing loveliness and beauty. Some attractions have gone, but others take their place, and compensate us for our loss.

During the autumn the songs of the birds are nearly hushed. The grand concerts of spring and early summer, when the morning hours were rendered vocal with the myriad voices of feathered songsters, have drawn to their close. The performers are rusticated; some are busied with domestic cares; some are organizing troupes for a southern tour. But still the fields and woods resound with chirps, and shrill cries, and the lively whirr of wings. The reign of birds is over; but nature has replaced them with her insect choristers. Chiefly from the grasshoppers are those selected; not the grasshoppers of May and June, but the later tribes who have been in training all the summer for the autumn concerts. Those that come in spring and summer are musical failures. But by the first of September we hear the matured notes of those gifted artists, the oldest on record. Older than all the feathered tribe are they; for does not geology tell us that in the early days of the earth's history, in the carboniferous times, the forests of gigantic ferns resounded with the merry notes of the grasshoppers before ever a bird was created?

By-the-way, let us digress here for a moment. An idea strikes us that may be interesting to musicians. Did you ever think that grasshoppers were fiddlers, or violinists, if you like that term better? But so it is. Entomologists tell us that the sound they make is produced by rubbing their legs over a resonant membrane forming the surface of the wing—the leg forms the bow and the wind the fiddle string. So that the violin may claim an ancestry running back myriads of ages ago, before ever a man trod the earth or the voice of a bird was heard.

Worthy successors of the birds, then, are these grasshoppers in nature's musical season. Then the crickets help to swell the chorus. Watch them playing on their banjos. The rough vein on the forewing is drawn back and forth over the tense hinder wing, and the resonant surfaces swell the volume of sound to a degree marvellous

compared with the size of the operator. If the voices of the birds are silent, there are others to keep up the chorus till the bleak winds of November drive all out-door vocalists to shelter, and permit no notes to be heard save their own.

But the greatest of all changes that autumn makes is in the colours that now are spread on Nature's face. Only a few weeks ago the grasses and leaves were plump with succulent juices, and rich with their summer green. The world outside of houses and cities wore its verdant robes. Flowers alone relieved the almost monotonous colour with their variegated hues. Now the flowers are gone; only a few asters, the rear-guard of the floral host, can be seen. But an enchanter's wand has passed over the forest trees, and draped them in their autumnal vestures. The lofty elms have changed their green for a faint yellow; the maples are dressed in gorgeous attire of scarlet and red; the birches and beeches burn with the glow that never consumes. All summer long the old chemist, the sun, has worked in his laboratory with these leaves; and now, with the help of the early frost, he gives them their holiday dress before they fade and fall. Only the evergreens refuse to change, and wear their sober green straight through the autumn, falling not when their gayer brothers fall, but wooing in the winter's winds till spring returns again—keeping the remembrance of summer always fresh, and "girding the seasons with a clasp of endless green." All the bright hues of the summer months were scattered in wayside flowers, in sunset clouds, in bright-winged birds and burnished insects; but now they are gathered up and flung with a rich magnificence over the mountains, up the hill-sides and down the valleys; and the earth lifts up its head, crowned with a glory in which Solomon never shone.

If the arrival of October is an intimation that winter is near, with its ice and snow, Nature sends the message by the most gorgeous of ambassadors. Other seasons have their beauties and their pleasures; but none come so brilliantly-robed as the season of autumn days—none so rich as the fall. The other seasons have prepared for this. The showers have been falling and the sun shining for many days to bring about the full fruition of autumn. The spring has seen the growing blades and the opening buds; the rays of the summer sun have been reflected in the bright blossoms, and have helped to ripen the golden grain and the luscious fruit. But autumn throws the wealth of Nature into our laps, and fills our barns and storehouses with the fulness of the earth.—*London Daily Advertiser*.

XI. Educational Intelligence.

—VICTORIA UNIVERSITY.—From the proceedings of the Wesleyan Conference we learn that a copy of the College calendar was presented to each member of the Conference. From its columns we learn that during the year lately closed there were students in arts, including undergraduates and specialists, 92; students in medicine, 118; and in law, 10; students in theology, 37; exhibiting a total in all the departments of 257 students. This large number is exclusive of 106 students in attendance at the Cobourg Collegiate Institute, an institute in affiliation with the College. The financial statement was read by Mr. William Kerr, Mayor of Cobourg, and one of the treasurers of the College. The working expenses of the institution for the past year were \$9,238, leaving a balance of \$719 to be applied toward the reduction of the debt. The present debt is now reduced to the comparatively small sum of \$8,796.

The Endowment Fund subscription is now upwards of \$93,000, of which \$53,000 have been paid and invested. It is the intention to increase the Endowment Fund to at least \$120,000. It is also recommended that the agency for continuing the effort to augment the Endowment Fund be persevered in, and that the Rev. Jno. Ash be reappointed, and the Rev. Joshua Johnson, M.A., be appointed to aid him in the work.

The Board recommended the selection of a European university graduate for a Professorship about to become vacant, and that President Nelles be requested to visit Europe for the purpose of securing such an appointment, and for other purposes connected with the University at Cobourg.

Revs. R. Jones, Dr. Nelles, Sanderson, and Wm. H. Gibbs, M.P., were appointed Trustees of the College for the ensuing year, and Rev. Dr. Rice, Rose, Griffin, and Dewart, and Messrs McLaren, John

Macdonald, Britton, Dean, Halden, Laselle, Wm. Beatty and Brouse were appointed the visitors for the next year.

Rev. Professor Burwash read the report of the Theological Department of the College, submitting details of the year's operation, including lectures and other studies. The report was adopted.

Rev. S. Wm. Briggs and Thomas Ferguson were appointed auditors of the accounts of Victoria College for the ensuing year.

The thanks of the Conference were presented to Mr. Wm. Kerr for his services as treasurer of Victoria College during the past year. Rev. Richard Jones read the business report:—"Through the mercy of God another year of toil and trial and progress has come to a close, and it affords your Treasurer great satisfaction to be able to report that, with very little bank accommodation, and without adding anything to the debt we have been able to meet all demands that have been made upon us to sustain the various departments of elocution in the College. We also have made some progress in the important work of paying off the debt, which stood against us at the beginning of the year. Something more would have been done towards lessening our indebtedness had the claims remained the same as formerly, but more than a year ago a petition was presented by the professors to the Board for an increase of salary. At the July meeting this petition was deliberately considered, and the Board agreed to give the President of the College and each of the four professors an increase of \$200, and the classical tutor \$100, making a total of \$1,100 to be added to the estimates presented at the last annual meeting. On no other item than that of salaries has any considerable augmentation to the expenditure been made. The Treasurers only state an obvious fact when they say that the strictest economy consistent with efficiency has been observed, which enables them to close the year free from pecuniary embarrassment, for on current transactions they owe no man anything, and the arrears of past years are fast disappearing. In the early part of the year information reached the Board that the late Edward Jackson, of Hamilton, bequeathed \$10,000 to the Trustees of Victoria College, to aid them in establishing a theological professorship, or to assist the college funds in any way they deemed desirable. It is gratifying to know that although there has been an unavoidable expenditure during the year, there is a balance in favour of the year's transactions of \$719. Until the entire debt is paid off it will be the duty of the Board to ask the Conference to give them two annual collections. When the debt is wholly liquidated it is hoped that the interest from the endowment fund, and the ordinary sources of income from students, will adequately meet the working expenses of the College. This will, beyond a doubt, be the case when the outstanding scholarships through the lapse of time shall cease to be available. In conclusion, we are encouraged to believe that a brighter day is dawning, and a bright future is looming before us to crown our patience, self-denial, and perseverance with success." The report was adopted.—*Globe Report*.

—QUEEN'S UNIVERSITY.—The thirty-second academic session of the University of Queen's College was opened 3rd October, by the customary services in Convocation Hall. The Very Rev. Principal Snodgrass occupied the chair. After prayer by the Principal, the opening address was delivered by Professor Watson on "Education and Life," and was an excellent address, displaying deep thought and research. After the address Principal Snodgrass made several announcements, and brought the meeting to a close by pronouncing the benediction. It is stated that the number of entrants this year is considerably larger than usual, which must be a cause of deep congratulation to the friends of the College.—*Chronicle and News*.

—MCGILL UNIVERSITY.—The introductory lecture to the session of the faculty of medicine in connection with this University was delivered yesterday afternoon by Professor Howard. There was a large assembly of students, and the lecture, which consisted chiefly of a synopsis of college duties, with advice as to the methods of pursuing studies, was attentively listened to.

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TORONTO, DECEMBER, 1873.

No. 12.

HIGH SCHOOLS—LEGAL DECISION.

IN THE COURT OF COMMON PLEAS: IN THE MATTER OF THE TRUSTEES OF THE PORT ROWAN HIGH SCHOOL AND THE CORPORATION OF THE TOWNSHIP OF WALSHINGHAM.

High School Trustees—Description of—Demand—Sufficiency of—Maintenance and school accommodation—Meaning of.

Wright of case. On an application for a mandamus to compel a Municipal Corporation to provide \$286.74 for a Board of School Trustees, they were described in the proceedings as "The Trustees of the Port Rowan High School;" and it appeared that on the 1st of July, 1872, a demand was made on the Township Corporation, headed, "School Section, No. 12, Walshingham, Port Rowan, July 1st, 1872," and stating that the amount required was "for expenses of conducting High School;" and was signed "William Ross, Secretary and Treasurer of Port Rowan High School Board." Subsequently to this, on the 19th August, 1872, the Secretary of the Board sent a letter to the Clerk of the Township Corporation, headed "Office of High School Board, sec. No. 12, Port Rowan, 19th August, 1872," stating that in making up the estimates for the "current expenses of High School," ~~an error~~ had been made, and that the amount actually required was \$286.74, which amount he was required to make immediate demand for from the Council, &c.

In reply the Township Clerk sent a letter addressed, "To ——— Ross, Secretary, P. Rowan High School Board," enclosing a copy of a resolution passed by the Township Council, stating that they declined to pay "the demand of the Port Rowan High School Trustees," &c.

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Held by the Court—1. That the description of the Trustees was sufficient; for that although "The Trustees of the Port Rowan County High School" would appear to be more correct, yet the Act 34 Vic., ch. 33, O., did not in express terms give any corporate designation, and the Township Corporation by their action had shown that they fully understood the body with whom they were dealing.

2. That the demand was sufficient, being signed by the Secretary and Treasurer, the officer and organ of the Board, and having been recognized by the resolution of the Township Council as the demand of the Board.



HIGH SCHOOL, WENONA, MICHIGAN, U. S.

3. That it was not necessary to give the estimates on which the sums required were based; there being a difference in this respect between the Grammar School and Common School Act.
4. That the purposes for which the money was stated to be required, viz., "For expenses of conducting High School," and "current expenses of High School," fell within the meaning of the words "maintenance and school accommodation," used in the Statute.

In Michaelmas Term, *Patterson*, Q. C., obtained a rule calling on the defendants to show cause why a mandamus should not issue, commanding them to raise \$286.74 for the maintenance and school accommodation of the Port Rowan High School, in pursuance of the application of the trustees of said school.

The application was founded on an affidavit of W. Ross, entitled, "In the matter of the Trustees of the Port Rowan High School and the Corporation of the Township of Walsingham," stating that he was the Secretary and Treasurer of the School Board: that the school was established under Consol. Stat. U. C., ch. 63, about the year 1865, in the Village of Port Rowan, which forms part of the Township of Walsingham, in the County of Norfolk: that the moneys required for the maintenance, &c., of said school from the 15th of February to the 31st of December, 1871, amounted to \$658.43: that during that period they had received from the Government for High School grant \$400, and from the County of Norfolk \$200, leaving \$58.83 still required for the maintenance and school accommodation for 1871: that from January to the 30th of June, 1872, they required \$484.83: that they had received from the Government grant \$171, and from the county \$85.50, leaving \$228.30 still required, making a total of \$286.75 to be raised by the municipality of Walsingham.

That an application was made on the 1st of July, 1872, by the Board, in writing, but the defendants refused to raise the money: that the collectors' rolls for 1872 had been since the application given to the collectors, not including any rate for raising these moneys.

The demand of the 1st of July was headed:

School Section No. 12, Walsingham,

PORT ROWAN, July 1st, 1872.

Township of Walsingham in account with the Trustees of High School Board, of School Section No. 12, Dr.

To expenses of conducting High School from 15th February, 1871, up to 1st January, 1872, over and above the amount received from Government and County grants	\$66 60
To amount of expenses as aforesaid from 1st of January to 30th June, 1872	188 00
	<hr/> \$254 60

You will please raise the above amount as soon as possible.

WILLIAM ROSS,
Secretary and Treasurer, Port Rowan
High School Board.

On the 19th of August, 1872, Mr. Ross wrote as follows:

Office of High School Board Section No. 12,
PORT ROWAN, 19th August, 1872.

To J. PHELAN, Esq.,
Clerk of Municipal Council of Walsingham,
Pleasant Hill.

DEAR SIR,—In making up the estimate of the current expenses of High School, I reckoned the amount of Government grant at \$200 and County grant \$100, but we have only received for the six months of 1872, from Government grant \$171, and from County grant \$85.50, leaving a deficiency of \$44.50 to be charged to the municipality in addition to the claims already made, which makes in all our claim against the township \$286.74, which amount I am requested to make immediate demand for from the Council, and save all unnecessary expenses.

Yours truly,

WILLIAM ROSS,
Secretary and Treasurer.

On the 17th September, 1872, the following letter was received:
Clerk's Office, Walsingham, September 17th, 1872.

SIR,—I have the honour to send you a copy of a resolution passed by the Council yesterday.

JOHN PHELAN,
Township Clerk.

To WILLIAM ROSS, Esq.,
Secretary, Port Rowan High School Board.

Moved by Mr. Dewitt, seconded by Mr. Boughner, Res. That this Council declines to pay the demand of \$286.74, of Port Rowan High School Trustees, believing it to be illegal.

In this Term *M. C. Cameron*, Q. C., showed cause. The proceedings are altogether wrong. The affidavit upon which application is based is entitled: "In the matter of the Trustees of the Port Rowan High School," and there is no such school. Section 24 of Consol. Stat. U. C., ch. 63, it is enacted that "Board of Trustees of each County Grammar School shall be a corporation by the name of 'The Trustees of ——— County Grammar School, prefixing to the term 'County' the name of the city, town, or village within which such Grammar School is situated," &c. that under this Act the correct name would be "The Trustees of the Port Rowan County Grammar School." By sec. 34 of Vic., ch. 33, Ont., it is enacted that "Boards of Grammar School Trustees shall be designated High School Boards, and the Grammar Schools shall be designated and known as High Schools, the word Board being specially mentioned. We would then have as the correct designation under the amending Act, 'The Board of Trustees of the Port Rowan County High School.' The demand is entitled in the same manner as the affidavit, and for the reason is bad. The demand is bad for the same reason as the affidavit, and also because it must be made by the High School Board. By sec. 36 of 34 Vic., ch. 33, it is enacted that the amount required to be raised by the municipality shall be raised "upon the application of the High School Board." Here we have on the 1st of July, a demand made by the Secretary and Treasurer, as of his own accord, but subsequently he writes to the corporation that an error has been made in the estimates which leaves a deficiency of \$44.50 to be charged to the municipality, which, "in addition to the claim already made, makes our claim against the township \$286.74, which amount I am requested to make immediate demand for, &c., but he does not state by whom he is requested. The demand also is informal, in not giving the estimates upon which the expenses are based. There must be a separate demand for each year, and therefore a demand made in 1872, including the amount of the previous year, is bad; also the demand must be for the amount due for the whole year; a portion of the amount so cannot be demanded. Moreover, the purposes for which the amount is required would not come within the meaning of the terms, "maintenance and school accommodation;" these words simply refer to the erection of buildings in which schools are to be held, and their maintenance when erected. Sec. 5 of the original Act, Consol. Stat. U. C., ch. 63, shows that the Government grant is to be applied to the payment of the teacher, and the amending Act shows that if school accommodation is required, the local municipality is to provide it.

Patterson, Q. C., contra. The proper style of the application is "The Trustees of Port Rowan County High School." The word Board is not necessary. Sec. 24 of Consol. Stat. U. C., ch. 63, states the Trustees are to be a corporation by the name of "The Trustees of the ——— County Grammar School," the blank being filled up with the name of the city, town, or village within which such grammar school is situated. In this description the word Board is not mentioned, and is therefore not required. Now the only alteration in this description made by the amending Act of 34 Vic., ch. 33, sec. 34 O., is, that the words "High School" are substituted for the words "Grammar School," and therefore the proper description would be, "The Trustees of the Port Rowan County High School." As to the want of a proper description, there is abundance of authority to show, that as long as a corporation is designated so as to be known, an error in the name will not affect the matter. The demand is sufficient. It was made by the Secretary and Treasurer, the proper officer for that purpose of the corporation, and the resolution passed by the township council on September 16th, namely, "That this council declines to pay the demand of the Port Rowan High School Trustees, believing it to be illegal," shows that they acknowledge it to be the demand of the Board. As to the demand not giving the estimates on which the expenses are arrived at, it is not necessary to do so; there is nothing in the Act which requires it, as it simply says that the corporation "shall upon the application of the High School Board, raise the proportion required to be raised by such municipality," &c. As to the meaning of the words, "maintenance and school accommodation," on referring to 34 Vic., ch. 33, sec. 36, we find that in speaking of cities or towns withdrawn from the jurisdiction of the county, it says, "the sums of money required to be raised from local sources, for the support of a High School." Here the only word used is, support. Then again, "such other sum as may be required for the accommodation and support of such school; here we have both accommodation and support; and in speaking of towns, incorporated villages, or townships, the word "support

is left out, and we have in its place the word "maintenance," and further on in this section "maintenance" is the only word used. Taking the section altogether, the restricted meaning contended for should not be given to the words, but they should be liberally construed. We show that the money is required for "expenses of conducting High School" and "current expenses of High School," which comes fairly within the words "maintenance and school accommodation."

HAGARTY, C.J., delivered the judgment of the Court.

The objections were wholly to the case made by the applicants. No affidavits or papers were filed in answer.

It was objected that there was no such corporation or body as the papers set out: that the demand was insufficient: that it must be by the Board: that a demand by the Secretary was not sufficient: and that the words "maintenance and school accommodation" apply only to providing buildings.

It appears this school was formed in 1865, under Consol. Stat. U. C., ch. 66. Grammar schools are there regulated. Sec. 20 says, "In each county in which one or more Grammar Schools are established, there shall be a Board of Trustees," &c.

Sec. 24 says, "The Board of Trustees of each County Grammar School shall be a corporation by the name of 'The Trustees of the County Grammar School,' prefixing to the term 'County' the name of the city, town, or village within which such Grammar School is situated."

Sec. 17 says, "The several County Councils may establish additional Grammar Schools within the limits of their Municipality," &c., &c.

Sec. 1 says, "There shall be one or more Grammar Schools in each county, * * to be distinguished by prefixing to the term 'county' the name of the city, town, or village within the limits of which it may be situate."

Under this Act we presume the name would be, "The Trustees of the Port Rowan County Grammar School."

29 Vic., ch. 23, passed 18th September, 1865 (the year in which it is said this school was established), provides for the County Council naming three persons as Trustees of each Grammar School, and other bodies to have a like power.

Sec. 3.—"The Trustees so appointed as aforesaid shall be a corporation, and shall succeed to all the rights, names, powers and obligations conferred or imposed upon Trustees of Grammar Schools by Consol. Stat. U.C., ch. 63."

This Act makes no further provision as to corporate names.

The Ontario Act 34 Vic., ch. 33 (passed 15th February, 1871). Sec. 34, Chapter 33. "Boards of Grammar School Trustees shall be designated High School Boards; and the Grammar Schools shall be designated and known as High Schools."

Sec. 35.—"All the provisions of the Grammar School Act shall, as far as is consistent with the provisions of this Act, apply to High Schools, their Trustees, head masters, and other officers, as fully as they apply to Grammar Schools and their officers."

Sec. 36.—"The Grammar or High School grant shall be exclusively applied in aid of High Schools. * * In the case of a High School in towns, incorporated villages, or townships, one-half of the amount paid by the Government shall be paid by the Municipal Council of the county in which such High School is situated, upon the application of the High School Board; and such other sums as may be required for the maintenance and school accommodation of the said High School shall be raised by the Council of the Municipality in which the High School is situated, upon the application of the High School Board."

The term "High School" seems first introduced instead of "Grammar School," by this Act of 1871.

We suppose the nearest approach to the correct corporate name under the last Act would be, "The Trustees of the Port Rowan County High School." But this Act does not in terms give any corporate designation.

Apart from this technical question, it seems to us that there is evidence before us of a sufficient demand and refusal: that the letters of the Secretary and Treasurer sufficiently show the sums required, and that a demand was made on the Municipality by the High School Board through their officer and organ.

The resolution of the Council declining to pay shows fully that they understood the requisitions to be made by the Board of Trustees.

As to the alleged insufficiency in the form of the demand, we must bear in mind that the words of this Grammar School Act are different from the Common School Act. In the latter it is directed that the Trustees prepare and lay before the Municipal Council "an estimate of the sums which they think requisite."

In the Grammar School Act, as cited, it provides, that the sums required for maintenance and school accommodation shall be raised, &c., upon the application of the High School Board; and

the succeeding sub-sec. 1 says, that the Council "shall, upon the application of the High School Board, raise the proportion required," &c., &c.

The distinction therefore seems important. *The School Trustees of the City of Toronto and The Corporation of the City of Toronto*, 23 U. C. R. 203; same parties, 20 U. C. R. 302; *In re School Trustees of Mount Forest and The Corporation of Mount Forest*, 29 U. C. R. 422; *School Trustees of Port Hope v. The Town Council of Port Hope*, 4 C. P. 418.

The purposes for which the money is required is stated to be "for expenses of conducting High School," and again as "current expenses of High School."

We think the "expenses of conducting," and the "current expenses," certainly fall within the words "maintenance and school accommodation."

The nominal difficulty remains. The introduction of the word "County," before the words "High School," would, we think, be more correct. But we do not see our way to holding that, under the not very clear directions of the Statute, we should on that account refuse the application.

The Council in their resolution call them the Port Rowan High School Trustees, showing that they fully understand the body with whom they are dealing; and they address their answer to the Secretary of that Board, and the demands are signed by the Secretary of the Port Rowan High School Board.

The introduction in both the demands of the words, "Section No. 12," are not explained.

On the whole, we think the rule should be absolute for a mandamus.

It is to be regretted that the utterly careless manner in which these matters are transacted raise all these legal questions.

Rule absolute for Mandamus.

II. Educational Matters in Ontario.

1. HIGH SCHOOL ENTRANCE EXAMINATIONS.

On Monday and Tuesday of last week were held the examinations for entrance to the High Schools throughout the Province. The Board of Examiners for Barrie met in the High School building on Monday morning, and His Honour Judge Gowan, the chairman, in opening the proceedings, took occasion to explain the circumstances under which the examinations were held. For the last two or three years the duty of admitting pupils to the High Schools had been committed to local boards of examiners, each board preparing its own set of questions, and affixing values thereto. It soon became apparent that the standards set up were as various as the boards themselves; that whilst, in some places, pupils were compelled to exhibit a fair amount of preparatory knowledge, in others the entrance examination was nothing but a sham and a delusion. To remedy this, and establish uniformity, the Council of Public Instruction last year instructed the High School Inspectors to prepare a set of questions upon each of the subjects appointed for the entrance examination, and at the same time issued minute directions for the conduct of the examination to each Local Board. The Government, however, vetoed these regulations on the ground that the Council, in passing them, was not administering the law, but adding to it. At the same time the Government declared that the High School Inspectors had no right to supervise the work of the Local Boards. All check upon the admission of pupils being thus removed, the demand for High School education increased with astonishing rapidity, and in less than six months not fewer than 2,000 new pupils were admitted to the High Schools. In one school in the west of the Province, which, for sometime had been languishing with an attendance of about 20 pupils, there was suddenly found to be an attendance of about 200. The secret of this haste to swell the attendance lay in the fact that the Legislative grants in aid of the schools were based on average attendance alone, no regard whatever being had to work done. Some few schools, among which His Honour was glad to say our own was to be found, acted in accordance with the spirit of the law, and suffered financially in consequence; for although the average attendance at our school has been slightly increased during the last two or three years, yet as the Legislative grant is a fixed sum, and the increase in attendance here was not in the same ratio as that of other schools where the stuffing process had been adopted, the receipts from Government, and consequently from Municipal grants, were considerably diminished. A scheme has been matured by the High School Inspectors for the classification of the schools according to work done, and the Inspectors now urge the adoption of a certain rate per pupil of average attendance according to the class of the school, those of the first class being paid at a higher rate than those of the second, and so on. His Honour was in great hopes that in consideration of the classification, and the check now placed by

law upon the undue inflation of attendance elsewhere, our own school would henceforth be placed in such a position financially as to enable the Trustees to administer its affairs with greater efficiency than had heretofore been possible.—*Northern Advance*.

2. HIGH SCHOOL ENTRANCE EXAMINATION.

The examination for entrance into the High School was held, as we previously announced. On this occasion, the papers in the six subjects of examination, viz.: dictation, spelling, grammar, geography, arithmetic and composition, were set by the Education Office, and sent with values attached to each question, to the several High Schools of the Province. This was done with a view of obtaining uniformity of attainments among the entrants. This latter step was rendered imperative by the fact that when the examinations were left entirely in the hands of local boards of examiners, there were great varieties of attainments among those, and some were admitted for the sake of increasing the Government grant to the school, who sorely needed more public school instruction. This occurred most in the case of High and Public Schools, and in places where the trustees measured a head-master's success by, or paid him according to, the amount of public money which he obtained for the school. The Education Office now seeks to remedy such anomalies as these by rendering the entrance examinations, as far as possible, uniform, by setting the questions, assigning values to them, and insisting on all candidates being rejected who do not make fifty per cent. of the total number of marks in their papers.

It shows the desire of the Board of Examiners to abide by the regulations laid down, and the absence of any desire to crowd pupils into the High School contrary to those regulations, that the Board, under the impression that fifty per cent. of marks was required in the two papers of arithmetic and composition separately, rejected fourteen candidates who fell short (some only by a little) of this standard in these two subjects, though they had a large margin over the half of all the others. But a subsequent telegram from head-quarters stated that a note on these two papers was not to be so understood. Consequently, as the lowest had a margin of nearly twenty over the required percentage, all were admitted.—*Port Hope Times*.

3. HIGH SCHOOL EXAMINATIONS.

The High School Examinations are becoming events of considerable importance—events that are looked forward to with a great deal of solicitude by candidates for admission to the school, and which are looked on by the successful ones with much satisfaction and not a little pride. To be enrolled as a student in the High School may now be looked upon as an honourable distinction, inferior only in degree to that of being a University matriculant. The regulation, adopted by the Council of Public Instruction, of sending out examination papers from the Department to all the schools in the Province, thereby establishing a uniformity in the examination of all the schools, will give great satisfaction to all such as are properly conducted. It is the only method by which anything like a correct idea of the standing of the different schools can be obtained, and while it effectually blocks up the old easy-going slipshod way, that was open to any that chose to try for admission, it at the same time, by making the admission more difficult, renders it a prize to be coveted, and when obtained, an honour to be proud of. I believe that our own examination in Woodstock has been very successful. The papers being sent from the Department in Toronto, acted as a powerful stimulant to both pupils and teachers, and they have worked with an earnestness and a success that shows how much can be accomplished when there is a definite object in view, and which will tell favourably upon the result of the examination. The Board of Examiners have not as yet, I believe, compared notes, but it is understood that there will be very few failures, while most of the pupils have answered the questions so correctly, and with such a fulness, as to place ours, without doubt, in the front rank of the schools in Ontario. The papers sent up from the Department are very fair, creditable papers, such as any High School pupil ought to be able to grapple with successfully. No one would appear to have reason to find fault with the new regulation, unless possibly the Board of Examiners might, as they are required to spend two days conducting the examinations, and then another day valuing the papers, for which, I believe, they receive neither fee nor even "casual advantages;" honour, perhaps, is sufficient compensation for them: or like noble patriots, they may be ready to sacrifice themselves for the public good.

A word, Mr. Editor, with regard to our High School and I have done. The change that has taken place in the old Grammar School, within the last year or so, is something like a miracle. It is a surprise to itself. Surprised by making the discovery that it possesses capacity for development and expansion, which for twenty-five

years it supposed did not exist. But it has at last waked up, caught the spirit of the age, and is fairly started upon the high of progress and prosperity. Teaching all the branches that necessary for matriculation at the University, with merely a nominal fee for tuition, and with an excellent staff of teachers, and public interest excited in its behalf, it may well be expected to grow up into an institution of which the people of Woodstock and of County will have reason to be proud.—"*CHRYSLER*," in *Woodstock Times*.

4. COMPETITIVE EXAMINATIONS IN PAKENHAM AND RAMSAY.

Competitive examinations of the public schools of the townships of Pakenham and Ramsay were held in the villages of Pakenham and Clayton respectively—the former on Wednesday, Oct. 15, the latter on Friday, Oct. 17. Pakenham sent representative pupils from five sections out of eight, and Ramsay made the handsome turn out of twelve sections out of fourteen; twenty-six intellectual combatants assembled at Pakenham, while no less than forty-five contended for the honour at Clayton. The examinations were conducted (with the exceptions of reading) exclusively in writing. This mode, though uninteresting to the spectators on these occasions, is the only one by which a correct estimate of the relative merits of competitors can be arrived at in a limited space of time. Moreover, it is very desirable that children should be habituated to written examinations, and thereby acquire that neatness, style and accuracy which are not to be gained in oral recitations. These examinations, which are being held in seven out of the twelve municipalities of the County of Lanark, if they have been participated in by the teachers, children and parents in the proper spirit, are calculated to do an immensity of good. Without discussing the great advantage of competition in the abstract, and the desirability of encouraging it in every possible way in our schools, we would merely allude now to the good results likely to accrue from the bringing together of the teachers and children to a common battle ground, there to measure swords with each other, and to test their respective prowess. If teachers are possessed of that teachable disposition so essential to the efficient discharge of the duties of their high and responsible vocation, they cannot fail to learn much at these gatherings. If we would progress, if we would enlarge our ideas, if we would keep pace with the advancement of the times, we must constantly seek opportunities to mix with others, and move outside of the narrow circle circumscribed by our own institutions. This observation most emphatically applies to the teacher. He requires to mingle with those who are pursuing the same calling in life, to compare notes with them and—what he can well do at these competitive examinations—compare results. Without attempting to criticize the work done in each subject that came up at the examination, we will confine our remarks to two heads, the first a general one—the written work—the second the subject of Reading. There is, in most of the written work exhibited at these examinations, a want of neatness and style—throwing accuracy out of the consideration altogether. Nothing is more striking than the careless, irregular and illogical manner in which the work is put down. This defect without doubt betrays a want of practice and particular instruction in this line. Nothing but frequent written examinations, written exercises and composition, will effect the desired change. With reference to the reading, it is discouraging to observe the very great rarity of good or even of fair readers. In several of the classes that have been examined at the different competitions in the country, none have been found deserving of any praise, none really deserving of a prize. This subject is not sufficiently taught. There are certain stereotyped styles prevalent—the high-pitched tone, the monotonous, the regular cadences of the voice, &c., &c., and until teachers set to work with a will to root out these evil practices, we will not have any improvement where it is so much needed.

In the Township of Pakenham, S. S. No. 4, the village school carried off the greatest number of prizes, while Nos. 1 and 2 divided the honours well and came off a good second. In the Township of Ramsay, S. S. No. 10, at Bennie's Corners, took the lead, followed closely by No. 4, the Clayton school, No. 16 making a very good third.

At Clayton the children were sumptuously entertained in the school house by the people of the village. There was a large turn out of parents on both of these interesting occasions. May they be attended with much good.—*Almonte Gazette*.

5. TOWNSHIP BOARDS vs. SCHOOL SECTION BOARDS.

To the Editor "*Journal of Education*."

SIR,—I regret that you did not give your readers a full report of the paper read on the above subject by Mr. Jas. Turnbull, B.A., before the late meeting of the Ontario Teachers' Association.

The address of the able President—those on the books of Euclid, common sense or logic, modern culture, the moral elements in common school education, were all highly interesting, and were sublime displays of eloquence and deep thought, but none are of so much practical and vital importance as the discussion of the subject which forms the title of this letter.

Sooner or later this question must be taken up and definitely settled.

The shameful mismanagements, and ignorant and arbitrary conduct of many of our School Section Boards, as now constituted, are beginning to cause a ferment in the minds of the ratepayer. The members of many of these boards can barely read or write, and are incapable of examining the junior classes of the schools over whose educational interests they are appointed to preside. The effect is that our schools, upon which the expenses greatly increase, are no better managed than in the days of local superintendents and inferior teachers.

The ill-feelings, heartburnings, to be found in nearly every school section in Ontario are, to men of sense, easily accounted for.

On the one side, are conceited teachers and educated inspectors, with little or no real power; on the other side are found, as a rule, ignorant and unlettered trustees with almost absolute authority.

Upon the effects of such a combination for the purposes of school management, it does not need a Daniel to pronounce judgment.

Amongst the outlines of Mr. Turnbull's paper, given by you, I find the following disadvantages in the Township Boards plan:—

"The change not yet demanded by the people." Did the people demand a change in the former system of local inspectors, in the Rate Bill, or in many other of those reforms that have been adopted in our school system within the last decade?

To wait for a reform until it is generally demanded by the people, is a very lame excuse for not improving that which common sense shows to be rotten. It would be a feeble Government that waited to bring in all its Bills until the people had expressed a demand for the improvement or reform. To my mind, it is the duty of the Council to take this subject into consideration and to take action upon it, as they have done upon very many other less important and more important matters, without waiting for the expressed demand of the people. If they do not consider it desirable to effect the change without the given consent of the people, it is at least their place to submit the question in a formal and practical shape for the opinion of the public.

The abolition of the Rate Bill was adopted by law without any ~~unjustified~~ reference to the people, and I am sure there would have been plenty of opposition to that clause, one effect of which has been that I, a farmer on two hundred acres of land, pay for the education of a large number of the children of mechanics in the neighbouring village, who (the mechanics) are in the receipt of from \$1.50 to \$3 per day. Whilst their children are educated at my expense, my taxes amount to the nice little figure of 56 odd dollars, or at the rate of nearly *eight mils* in the dollar.

And yet there was no squeamishness about "the change not having been demanded by the people" before the abolition of the Rate Bill.

The second disadvantage as shadowed forth is "Poor and small sections assisted by the more wealthy part of the townships." I can, Sir, find no words to express myself in regard to the adoption of this reason as against the establishment of Township Boards, better than "this is indeed mean." The present system is willing that I, who send no child to school, should pay three times the school tax of my grocer, my blacksmith, and free schooling for the mechanic in possession of an income of from \$500 to \$900 per year; but it shudders at the idea of any of my \$56.00 per year going to benefit poorer sections. I thought that the grand principle constantly paraded by the advocates of free and compulsory education was the improvement of the people generally. Surely, then, if I and others, in similar circumstances, are to pay for the education of other people's children, we should be permitted the satisfaction of knowing that our money has been appropriated not to wealthy sections and people, but to poor or small sections.

I would simply ask why, on the principle of free and compulsory education, the acme of philanthropy, the poor or small sections should not be assisted by the more wealthy part of the township?

Next comes "Let what is considered by some well enough, alone." Was there there ever any system of religion, of finance, or of general polity, aye, or any system of injustice, cruelty, roguery or blasphemy, but was not considered by some well enough?

The man who could advance such a reason for the retention of any system, against which, it cannot be denied, there are strong advocacies, must be near his last resource for argument.

"A desire to retain power, and a fear that the new board would not take a sufficient interest in all the schools."

What an argument! We are not to change the system, because the present trustees "desire to retain power." Of course they do. The more ignorant a man and the less fit for a position, the more eager is he to retain power, and the more reason, in the eyes of sensible men, for preventing his accession to a new lease of authority.

And, then, why would not the new board take interest? There would be a representative to watch the interest of his own section, and he would have to take interest, to protect his own section at the general board.

I feel, Sir, that this is an almost inexhaustible subject. For my own part, I am at a loss to find, nor have I heard of a single argument worthy of a moment's consideration, in favour of the retention of the present "School Section" system. On the other hand, there is to my mind, and although the mass of the people have not yet publicly declared it, I believe, to them, all the arguments, as shadowed in your report of Mr. Turnbull's paper, are full of suggestion and are of great weight.

The permanency of teachers, convenience to parents, saving of expenditure, an impartial tribunal, teachers' residences, &c., &c., &c.

I am, Sir,
Yours truly,
SCHOOL TRUSTEE,
Co. of Wentworth.

13th October, 1873.

6. AGRICULTURAL COLLEGE FOR ONTARIO.

In the address of the President of the Provincial Association we find the following reference to the new Agricultural College for Ontario:—

"It is proper to direct your attention specially to the proposed Agricultural College and Model Farm. During the present year the Ontario Government have purchased the farm of Mr. Stone, near Guelph, for the purpose. It is one of the best farms in the Province, and in every respect admirably fitted for the institution. It is pleasing to be assured that it will be soon opened for the reception of students. In Ontario we need an institution in which *teaching the science and practice of agriculture is the leading feature*. We have tried the same experiment which has been so often tried elsewhere, with invariably the same result, that is, we have tried to unite an agricultural school with a literary institution, on the theory that an agricultural student could combine a literary course with an agricultural one; the result has been failure. The literary has overshadowed and extinguished the other. The general has overpowered the special. Notwithstanding the teaching of an able professor in our own University College this has been the result. The same thing is the case at Cornell University. A large endowment was given to New York for an Agricultural College, and that was ceded to Cornell, and an agricultural faculty was established, but as part of a great literary institution, and the result has been that in a University roll of several hundreds the students in a given time number less than twenty. We propose that our farmers' sons shall receive that kind of training which has a special reference to the profession of agriculture; in other words, that as in the case of other professions, they shall be trained for their own profession, taught scientific and practical agriculture, and that they shall also be taught to feel that the profession of agriculture is a noble pursuit, a pursuit first in importance to the world, and largely free from temptations to vice, and very favourable to the practice of virtue. The Ontario Government have secured the valuable services, as Principal, of Prof. McCandlers, formerly of Glasnevin, Ireland, and lately of Cornell University. Under his auspices we hope to have a prosperous career for our Ontario Agricultural College and Model Farm. To the farmers of Ontario this institution belongs, and they ought to give it their confidence and extensive patronage. "The Government and Parliament are supplying these valuable privileges—see to it that your sons take advantage of them."

7. BOTANY IN OUR PUBLIC SCHOOLS.

The efforts made by the Chief Superintendent of Education to promote the study of botany among the youth of Ontario are deserving of all praise. As a first step in the attainment of a very desirable object, the little compend prepared and published by Dr. Ryerson is valuable for beginners, and in schools where the organization will not permit the teacher to apply any great amount of time to one subject. But we fear in this, as in almost every other attempt that has been made to popularize the science of botany through the medium of text books alone, the subject will present a dry and forbidding aspect. This is the charge usually brought against the

study by teacher and pupil alike, and there is nothing in the present effort to prevent such a charge being made, and such a feeling from springing up in connection with the present attempt to make the study of botany a part of the course prescribed for our public schools.

The great question is—are we to consider this *dryness* as an essential and inherent element in the science of botany? Cannot the study of this useful and delightful subject be prosecuted by a class, with such a degree of pleasure as will make it an agreeable recreation rather than a dry, repelling pursuit? How few can be found in an ordinary community who love not flowers! This admiration for nature's handy-work as seen in the flowers that beautify and adorn the earth is confined to no class, but is found as vivid in the ranks of the illiterate as among the most cultivated. One would naturally think that a subject which addresses itself so forcibly to the taste and sympathy of all should elicit some inquiry, some curiosity regarding the different parts of the plant itself, the organs of growth and reproduction, and the peculiar functions of each. When one looks around him he is struck with the endless variety of plants and flowers that meet his eye at every step, while the beauty of their colours, the delicate symmetry of their forms and their sweet fragrance excite in the mind the most agreeable sensations. There is surely something amiss in the usual manner of treating a subject whose material development is surrounded with so many attractions, and whose physical forms and beauty excite an admiration so general, when we find students in such numbers turn away from the study in the course of a few weeks, and even those in our colleges dipping into the science no farther than necessity compels them.

In the first place, in order to make this branch of science as attractive to the student as it ought to be, the teacher should be master of it himself. What means have been adopted by the Council of Public Instruction to secure teachers competent to give instruction in this branch, now that it has obtained a place on the curriculum of the Public Schools? Is botany taught in a scientific manner in our Normal School? Are the students of this institution, in which are trained our Provincial teachers, made acquainted with the *Flora* of Canada through actual forms and specimens, or is the teaching the same as that introduced into our Public Schools, consisting of a series of hard technical terms, explained, or attempted to be explained, by a few imperfect plates in a text-book? If this be all, and we have good reason to fear it is, then a failure on the part of the teacher and his inability to interest his class might have been predicted with safety from the first.

With a teacher pretty well up in his subject the matter might present a different aspect. Give such a teacher an hour and a half or two hours in the week, and he will have no complaints of the dryness of the subject, nor of unwillingness to follow it up on the part of the pupils. He would most likely divide this time or whatever he could spare into two parts, the one devoted to book-work, the other to a practical application of the science. If the weather be fine, the teacher will occasionally take his class with him into the grounds, the fields or the woods, and illustrate there the principles he has been teaching in the class-room. A flower is taken up, the plant classified, and the principles upon which this classification is made pointed out clearly to the students. The flower is examined, the different parts taken separately, each examined by itself, and if need be, magnified with a convenient microscope, the peculiar formation of each part accurately pointed out, and its function explained. The root, the stem, the leaves may all undergo a careful inspection at the same time; the food of the plant, the organs of growth, and the mode of action explained. The form of the leaf will be pointed out, the name it receives from this form, even the peculiarity of veining in the leaf, and the manner in which they spring out along each side of the stem or branch, made a subject of careful study, with the designation assigned to each variety.

Suppose one pupil presents a flower of a peculiar shape, the teacher calls it a *Raceme*, another he calls a *Corymb*, and a third still he calls a *Panicle*; and he invites his class to collect specimens of each kind, after he has explained the distinctive peculiarities of each, and the manner in which they may be classified in this way. With what interest will they set about a task so pleasant! How their knowledge will be extended in a few lessons! How their powers of observation will be cultivated; and how enthusiastic they will become in collecting specimens, and in classifying those they collect! There will be no dryness in this pursuit now, simply because they are under the care of one who understands the subject, and the investigation is pursued in a manner at once interesting and instructive. The same course might be pursued in the class-room, were the pupils to bring specimens and the teacher to assist them in the naming and classifying of each. In this manner the study of botany would soon become a favourite pursuit with the students, and the time devoted to it would be well, pleasantly and profitably spent.—*London Free Press*.

9. RE-UNION AT THE CANADIAN LITERARY INSTITUTE

On Tuesday, the 14th October, after a collation in the hall of the Institute, all proceeded to the spacious lecture room chapel. The business was opened with prayer, when, on motion Mr. Pavey, seconded by Mr. R. W. Sawtell, Rev. Dr. Fyfe was elected to preside. The Rev. President referred to the object of meeting briefly, and introduced the Rev. Dr. Casswell, of Toronto. This gentleman is an exceedingly pleasant speaker—evidently a man of the world, and withal full of the graces that belong to the Christian. Like most Americans, he enlisted the attention of his audience by a well-turned period of a humorous character. He said he had been invited, with others, to make a visit to Wellington, and to call on the President of the Republic, but he preferred this occasion and the call of the worthy President of the Canadian Literary Institute. Having secured the good opinion of the meeting, he next proceeded to impress upon the people the advantages, educational and otherwise, of the Institute. He followed with startling premises—to many at least—that education with religious training was like seed cast among stones. He contended that such was the enlightenment of the present day—such the advancement of scientific achievements—such the scepticism of the age, that the youthful mind required, nay, should have the watchful guardianship and culture which only could be given by one devoted to the cause of Christ. He referred to the excellent economy of discipline of the Church of Rome, that took care to have its root placed deep in the youthful mind. He was not in favour of a State Church, but he was emphatic in his advocacy of denominational teaching; and of course he looked upon the Canadian Literary Institute as fully capable of all that was required for this church. The Rev. speaker enlarged on the necessity of higher education. The dull axe, with force, might accomplish its work, but the sharp polished edge was the more effective; and denominations that took no heed of this requirement were certain to fall into disrepute. It was not sufficient that ministers alone should be taught. The high walks of life, men in Parliament and the municipal councils, required cultivated intellects. He then referred to the liberality of individuals who of their abundance had left a heritage to their fellow-men, and said that no better use could be made of the blessings bestowed by the Giver of all good than the endowment of institutions for the culture of the young; and he appealed to those present to express gratitude for the blessings enjoyed by contributing to the support of the Canadian Literary Institute. The Report of the Treasurer, Mr. SAWTELL, was read, showing that the Institute had spent in the last year on the new apartment intended for the ladies. The Report seemed eminently satisfactory. Hon. W. McMaster, moving a vote of thanks to the management, paid a high tribute to Dr. Fyfe, who he said had twice been his spiritual adviser, and to whom the denomination and the Institute were deeply indebted, as well for the high religious standard reached as for the scholarly and financial success attained. This resolution was followed by another in respect to contributions in aid of the Institute, and a good sum realized; and the pleasant meeting separated.

The ladies' department is now under the care of an efficient staff. Miss Dorr, Governess, is a lady of winning manner, and Miss Brown and Miss Fanches, in their respective duties, appear quite at home. The prospects of the Academy certainly never were brighter than at present.

It was moved by the Hon. W. McMaster, seconded by W. Craig Esq., of Port Hope, "That we, the brethren here assembled from different parts of the country, having surveyed the Institute buildings and surroundings, and especially the recent additions and improvements, Resolved, that we feel greatly pleased and gratified in witnessing the results of the wisdom, foresight, efforts and pecuniary expenditure put forth, and consider that our beloved brother, Dr. Fyfe, and those associated with him, deserve the gratitude of our denomination throughout the Dominion, and in the future their generous and hearty support."

PAPER READ BY R. W. SAWTELL, ESQ., TREASURER.

The origin of the Canadian Literary Institute is of such recent date that there are few present unacquainted with the general outlines of its history; and it would not be proper for me, on the present occasion, to anticipate the labours of some future historian in relating facts now known only to a limited number of persons, of its early struggles for existence, of the prejudices allayed, the obstacles encountered and surmounted, the incessant vigilance required to guard it in its infancy and youthful weakness; the great and continuous responsibilities of the charge, and the self-sacrificing labours of a small number of devoted men, some of whom have gone to their reward, and whose memory we reverence, while others are still plodding on in their labour of love, solicitous only for the welfare of the Institute, and hopefully looking forward to the time when it shall not only be self-sustaining, but when it shall be second

to no educational institution in our land, in imparting that knowledge which shall prepare its students for the practical duties of life.

It may be truly said, that for sixteen years the Trustees have been begging and building, building and begging; and their object in inviting you here to-day is to witness the result, to give an account of their stewardship, and await your verdict. Before presenting to your consideration the present financial position of the Institute, I beg the privilege of referring briefly to a few facts in the past history of the enterprise. It is well known that at the time the plans for establishing a denominational school assumed practical shape, the Baptists of Canada were neither very numerous nor very rich, nor had they then learned or appreciated the scripture rule of giving as God had prospered; hence, it became almost an herculean task to erect the first building by voluntary contributions. Scarcely was it finished and had been occupied but a few months, when, in the providence of God, it was destroyed by fire, leaving us only three acres of land, and a blackened heap of doubly burned bricks. When the Trustees met to consider what course to pursue, they felt that a cloud of appalling darkness overshadowed them; and when about to decide to abandon the enterprise as lost, a brilliant flash of light skirted the eastern horizon, and soon a still small voice flashed along the wires, saying, "Cheer up, and take courage—put me down for \$4,000." This was the turning point, and very soon old friends doubled their subscriptions; and those who had either opposed or were indifferent to its welfare, voluntarily offered gifts to the treasury, and the result was the erection of a building exceeding in size and accommodation the one consumed. Large as it then appeared, it was not long before an appeal was made to the Trustees to provide more room. The denomination responded at once, and the building on the west side was erected. This did not long satisfy the insatiate demand for room; but while no solution of the difficulty was apparent to the Trustees, the same overruling Providence opened up a way which gradually led to the present results.

Three years ago Mr. Henry Burtch advertised his farm for sale, consisting of sixty acres, immediately surrounding the Institute property, then consisting of six acres only. It was felt that to enable the school to enlarge its sphere of usefulness it was necessary to procure more land; and to protect it from undesirable evils, that would probably hem it in on every side, it was essential to become the owners thereof. The scheme for acquiring the whole, and disposing of the part deemed unnecessary, was matured, and from this circumstance the enlargement plan grew into its present dimensions; and the whole property, consisting of thirty-six acres of land, with all the furnished buildings thereon, is now worth at a fair valuation upwards of sixty thousand dollars (\$60,000), owned by the denomination, and, we are proud to state, by the voluntary contributions of a free people unaided by the legislative subsidy.

The prospectus for the last scheme limited the outlay to \$20,000, but it will be seen that this amount has been exceeded by \$8,000. This needs explanation or an apology.

Many will be ready to ask why the Trustees did not first sit down and count the cost; and I will as readily answer that they did. But, have not hundreds of individuals, firms and Boards of Trustees been caught in the same snare? The sudden rise in labour and materials has crippled many an enterprise, and ruined many contractors. The Trustees matured the plans for the accommodations required, and when returned from the hands of the architect, found it necessary to strip them of every unnecessary ornament; but they felt that it would be better to lay themselves open to censure for excess of expenditure, than to dwarf the accommodation, and mar the appearance and harmony of the whole; and with enlarged faith in the willingness, as well as the ability, of the denomination, the Trustees may reasonably hope that they will be sustained in the course pursued.—*Woodstock Times*.

9. TEACHERS WHO HAVE RETIRED FROM THE PROFESSION.

STATEMENT showing the Names of the Teachers who have given notice of Retirement from the Profession, as provided by the School Law of 1871. (Continued from March number.)

NAME.	COUNTY.	Subscription returned and date.
127 Anderson, John	Bruce	\$2, May, 1873.
128 Burns, James	Renfrew	4, September, 1873.
129 Carpenter, J. O.	Wentworth	2, April, "
130 Crookshanks, Simon	Hastings	2, "
131 Crawford, Geo. E.	P. Edward	2, June, "
132 Coulter, Robert	Essex	4, July, "
133 Donnelly, James	Simcoe	3, October, "

NAME.	COUNTY.	Subscription returned and date.
134 Bingeman, Joseph	Oxford	\$3, May, 1873.
135 Elliot, George	Welland	4, October, "
136 Foran, James M.	Wentworth	2, May, "
137 Garner, Charles	Perth	2, June, "
138 Gerrard, Alexander	Huron	2, September, "
139 Georg, J. E.	Waterloo	5, "
140 Gilbert, Geo. H.	Elgin	5, "
141 Henry, Wm.	Toronto	5, October, "
142 Harris, J. H.	Durham	2, April, "
143 Howe, Henry V.	Grey	3, May, "
144 Jenkins, A. H. M.	Wellington	3, July, "
145 Johnson, Wm. D.	Toronto	4, October, "
146 Kaercher, J. G.	Simcoe	4, April, "
147 Kiernan, Wm. M.	Do.	4, May, "
148 Libb, John C.	Toronto	5, October, "
149 Ledingham, George	Do.	4, "
150 Little, W.	Hastings	1, September, "
151 Moulton, Proctor	Victoria	3, April, "
152 Miller, Thomas F.	Huron	3, July, "
153 Moore, John M.	London	4, May, "
154 McKee, George	Oxford	1, April, "
155 McArton, Stuart	Lanark	4, July, "
156 Munroe, John A.	Lambton	4, September, "
157 Mortimer, R. S.	Wellington	3, May, "
158 McLean, William	Simcoe	4, October, "
159 McFarlane, Robert	Bruce	4, "
160 McGregor, John O.	Toronto	4, "
161 McCormack, J. C.	London	3, May, "
162 Ockley, R.	Frontenac	1, April, "
163 Quin, Wm.	Grey	2, May, "
164 Russell, W. D.	Peterborough	3, April, "
165 Riddell, Wm.	Northumberland	3, "
166 Rae, George	Durham	2, September, "
167 Rowe, Edward J.	Peel	3, "
168 Read, Joseph	Leeds	5, October, "
169 Stewart, Alexander	Huron	1, May, "
170 Stuart, W. T.	Grey	3, "
171 Sparling, Wm. W.	Kent	4, April, "
172 Stuart, James G.	Toronto	3, September, "
173 Teetzel, James V.	Elgin	3, July, "
174 Tennant, Walter	Simcoe	4, September, "
175 Vermilyea, Nathaniel	Hastings	5, October, "
176 Vickers, J. W.	Durham	1, September, "
177 Wrigley, George	Middlesex	2, June, "
178 Wright, R. Walter	Grey	4, July, "
179 White, Joseph	Peel	3, May, "
180 Wittet, George	Oxford	4, June, "
181 Watson, C. W.	Peel	5, September, "

In addition to the above, the following payments have been made to widows of subscribers:—

Bennoch, Mrs. Jane	Perth	\$116 56, Feby., 1873.
Cooley, Mrs. Matilda	Peel	6 63, July, "
MacTavish, Mrs. Mary E.	Peel	8 63, "
Styles, Mrs. J. E.	Dundas	8 55, Oct., "

—UNIVERSITY COLLEGE.—The annual Convocation of University College, for the admission of students and the presentation of prizes, took place 18th October. A number of students were presented by the Registrar, Mr. Vandersmissen, as having matriculated this year. The prizemen were then called up, and received from the hands of His Excellency the rewards of their industry. At the conclusion of the distribution of prizes, the President called upon Mr. John McDonald—the founder of the McDonald bursary—for an address. Mr. McDonald, who was received with great applause, said that it afforded him a very great deal of pleasure to be present on that occasion, to listen to the remarks that had been made in presenting to His Excellency those gentlemen to whom had been awarded the prizes in the various departments; but more particularly to hear the testimonies that had been borne to the admirable manner in which those prizes had been won. No better preparation could any young man have, who went out to fight the great battle of life, than the very labour which enabled him to secure one of those prizes. (Applause.) To obtain one of these implied the profitable use of one's time; it implied careful and thoughtful study, and was, indeed, the very groundwork of one's success in future life. He had a very great deal of delicacy in speaking before an assembly such as that without preparation, and in an extempore way, but he might say that it afforded him special pleasure to make a remark with reference to the gentleman who had carried away this bursary. He (Mr. McDonald) trusted that, like some gentleman who had preceded him, this gentleman might make his mark, and that the very principles which had enabled him to be a successful competitor on this occasion might serve him throughout his entire life. (Applause.)

The Lieutenant-Governor was then called upon for an address, and said that the duties imposed upon him that day in his official capacity had been most pleasing. He assured the President that it had afforded him the greatest possible gratification to be the medium through whom

the prizes had been presented to the young gentlemen who had been brought before him that day, and to have the assurances of himself and the gentlemen associated with him that those prizes had been well earned, and that the gentlemen who had received them were well entitled to them. He hoped these rewards would be an encouragement to those to whom they had been awarded to continue to push forward in the work in which they were engaged, and an incentive to those who had not been successful to the same degree, to determine if possible to secure their share of the prizes in the future. That institution having been established and endowed by the State, and being open to all without respect to religion or politics—(applause)—was truly national in its character, and they had had evidence that day that it was equal to the performance of all that its founders had intended, or that the country expected of it. The Government, wisely in his opinion, had extended the basis of representation of the governing body of the University. (Applause.) He hoped, and he had no doubt, that this would tend to keep up an interest in the institution throughout the country, and prevent any feeling that it was local in its government or in its objects. This being the last occasion on which he should be present with them in his official capacity, he desired to avail himself of the opportunity to express the obligation he (and he believed the people of the country also) felt himself under to that eminent body of men who were associated in the management of the institution, for the very great efficiency they had shown in the performance of their duties. He felt, whatever position in life he should occupy in the future, the interest he now felt in University College would remain undiminished. (Applause.)

The President then said that, after the remarks that had fallen from His Excellency and from Mr. McDonald, it would be quite unnecessary for him to detain them by any lengthened address. There was a duty, however, which he should discharge connected with the annual Convocation, one in which great interest was felt throughout the country. Perhaps they would excuse him for a few minutes while he read them the results of the last matriculation examination in the University. For the senior matriculation, which was the same as the examination at the end of the first year, there were four candidates, of whom three obtained scholarships. The first of these was Mr. Nicholson. (Applause.) To this competition, he was glad to tell them, Peterborough sent one candidate, and the Canadian Literary Institute, Woodstock, one. In the junior matriculation, Upper Canada College obtained four scholarships. One of her candidates, Bowes, obtained a treble. Hamilton took two scholarships, and Morrisburg two, Johnson obtaining a double. Port Hope took two, Hayter receiving a double; Galt one, Burt; Whitby one, Davison. Of the other schools which competed, some were rather more successful than the others. One other duty now remained for him to perform, which his own feelings, and he was sure the feelings of none of them, would not permit him to pass over in silence. During the past year they had lost two of their students by death, one of them in the spring of the year, Duncan Cameron, a fine young man, healthy and vigorous, the last any one would have expected to be carried off so suddenly, as he had been. He was sorry to hear, and he was afraid he was bound to believe, that that death was the result mainly of over-exertion in study. It might seem strange for a person in his (Dr. McCaul's) position to give a warning such as that, but they might depend upon it that the bow which sent home the arrow surely and swiftly must be unbent sometimes. There must be relaxation. He (Dr. McCaul) was sure that he would never have been able to endure the fag that he had had during the time he had been in Ontario if it had not been for the strength he laid up in his youth by devotion to athletic games, more especially to cricket. (Applause.) There was one other to whom he must refer, and whose name appeared on the prize list. He meant Mr. McKeown. This gentleman came to the College at a very early age this time last year. He was most attentive on lectures, and at the matriculation examination he obtained a double scholarship—one in classics and the other in general proficiency. He obtained the same honours at the examination last June. He was carried off during the vacation. Although he (Dr. McCaul) was far from wishing to cloud the brightness of their gala day by a single sombre reflection, yet he could not but feel it to be his duty to press upon them the important lesson that might be derived from these events, which was, to be prepared for the summons of death whenever it might come. He hoped all might be prepared to meet that summons, as he had reason to believe poor McKeown was.—*Globe*.

—SABBATH SCHOOL CONVENTION OF CANADA.—*Religious Teaching in Public Schools*.—The Rev. W. Scott moved the following resolution with respect to ministers of religion visiting the Public Schools:—"That this Convention, representing a large body of school workers, chiefly in the Province of Ontario, is deeply convinced that the times in which we live specially demand that all education should have a Scripturally religious basis, and, therefore, this Convention earnestly urges Christian ministers of all denominations to avail themselves of the advantages and privileges granted under the admirable school system of Ontario, to visit the Public Schools as frequently as possible, with a view to communicate suitable religious instruction." Mr. Scott addressed the meeting on the necessity of there being a religious basis to school instruction. Rev. Mr. McLellan, Peterborough, considered that at the Convention was not the best place to introduce this subject. He had been practically connected with the work of education for many years, and well knew the difficulties the discussion of this subject would give rise to. There was a proper place for this matter to be dealt with, not at this Convention, but at their church meetings, conference, assemblies or synods. He spoke of times when an opportunity presented itself for

ministers to say a word or two in season. He well knew its difficulties on the one hand, and the opportunities on the other; but he felt that the subject would not be dealt with to advantage here. He trusted he had not said anything that could be misconstrued. He felt from the reasons stated that they could not safely or wisely go into the matter at this Convention. Rev. Mr. Scott withdrew his resolution, remarking that the chief reason he had in view in bringing it forward was to call attention to the privileges they had under the law. Being answered, he cheerfully withdrew his resolution. In one of the reports read yesterday, reference was made to the importance of having a Normal School training for Sunday School teachers, and of having voluntary examinations to show the efficiency of the teachers in Sunday School work. It was done in England, and attended with great success, and a similar system was adopted in Quebec. The object was to render teachers more efficient in their work, by giving them the advantage of a Normal School training. The resolution was seconded by Rev. Geo. Richardson, of Watertown. Carried.—*Globe*.

OPENING OF THE PRESBYTERIAN COLLEGE, MONTREAL.—The handsome structure erected for the Theological College of the Canada Presbyterian Church, in McTavish Street, was formally opened on October 28th. The Principal of the College, the Rev. Dr. MacVicar, took the chair. The Principal, after singing and reading Scripture, addressed the meeting on the subject of the ORIGIN AND PROGRESS of the College. "The Synod of the Canada Presbyterian Church," he said, "having resolved to establish the Theological College here, and a charter having been obtained, the three Presbyteries of Montreal, Ottawa and Brockville were set apart for the support of the institution. The work of instruction was commenced in the winter of 1867, under the care of the Rev. Messrs. Gregg and Aitken, each delivering lectures during three months. Since then till to-night 100 classes have been held in rooms generously granted free of expense in the basement of Erskine Church. In 1868 I was appointed Professor in the College and accepted the office, leaving for this purpose one of the strongest congregations in our Church. It is not surprising that the work was looked upon as purely tentative, when you remember that we set out amid the openly expressed doubts and fears of not a few, with a mere handful of students, with no library, no scholarships, no endowments, no buildings, and only one Professor. WHAT HAS BEEN ACCOMPLISHED? After five years of arduous toil we find ourselves in possession of assets amounting in all to between eighty and ninety thousand dollars. We have a library of over five thousand volumes, twenty scholarships of the value of \$50 to \$60 each; two medals, one in gold, founded by the students last Session, and the other in silver, founded by A. Sandham, Esquire; and an endowment fund of twenty-four thousand dollars. We have three Professors, and the services of an able Lecturer and Tutor. We have forty Students and seventeen Graduates; and to-night we rejoice in taking possession of this beautiful and commodious building, of which I shall say more presently. We train men speaking English, Gaelic and French, provision being made for the education of the last-named, so as to fit them for Missionary service throughout the country. Our students come from all parts of the Dominion, and some recently from the United States and Scotland. They are Graduates in Arts of Toronto University, Queen's College, Kingston, McGill College, and other similar institutions. As to their talents and literary attainments, suffice it to say that a reasonable number of them have taken the highest honours in their Arts course; and I can speak confidently of their devotion and success in theological studies. MISSIONARY ASPECTS OF THE WORK.—In this connection I have to mention the pleasing fact that are long several of our young men will, I trust, by the grace of God, be found in the foreign field, in India or China. With these facts before you, I ask how far have the expectations originally entertained been realized? Was it not a good thing to have established this college? And would it not have been far better than it is to-day for our Church here and throughout the Dominion had it been established fifteen or twenty years ago? But I shall not enter upon an apology for our course, which is now too plain to require such, and which is being followed by other Christian denominations. OUR RELATIONS TO MCGILL COLLEGE.—It would be improper and even ungrateful on such an occasion as this to overlook the many advantages which we enjoy, and which are open to all other denominations, from affiliation with McGill College. The Library, Museum, Scholarships, Exhibitions, Medals and Lectures are all open to our students. Specially should I mention the facilities afforded them for the study of Hebrew and Oriental languages, which usually have to be provided by theological seminaries at their own expense. OUR NEW BUILDINGS.—It is unnecessary for me to attempt a description of the beautiful, substantial and commodious building in which we are assembled, and which you see for yourselves; it is sufficient to say that, through the skill, taste and fidelity of our architect and contractors, it more than satisfies our expectations. It contains accommodation for our library and classes, and comfortable studies and dormitories for our students. That we were not mistaken in making provision for our young men in this respect is shown by the fact that every room we have is now occupied, while some of our men are still boarding beyond the College buildings. And I feel sure that I can safely say for all students within these walls that they rejoice to-night that the thing to which some of them have looked forward for five years is now realized, that they gratefully appreciate what has been accomplished, and address themselves to their work with renewed vigour, feeling that we offer them as great advantages, and at less expense, than they can enjoy, I shall not say in Canada, but on this continent. These buildings and grounds cost \$44,100. The amount

subscribed is \$38,350, of this \$21,600 has been paid. The amount already paid to contractors is \$30,000, being \$8,400 in excess of the amount as yet received by the Treasurer. From the state of our funds it is plain that subscribers, who have it in their power to pay earlier than stipulated in the list, will confer a favour by doing so. Until this is done, we shall be obliged to make payments on an interest account, and thus increase the total cost. In this connection, it gives me pleasure to acknowledge the generous contributions given us by persons of various denominations, especially by our friends of the American Presbyterian Church in this city. I cannot refrain in this public manner from presenting an expression of admiration and grateful thanks in behalf of professors and students to all the members of the College Board for the energy and despatch with which they have carried forward this work to successful completion; and it is but right to say what all feel, that we are under special obligations to Mr. Warden King, our Treasurer, Mr. David Brown, Mr. John Watson, Mr. John Stirling, our Secretary, and to the members of our finance and building committees, for the valuable ~~work, thought and efforts which they have expended in the work of the~~ Church. By the blessing of God there has been no accident, interruption or conflict of opinion in carrying forward our undertaking, and I believe I can safely say of all the contractors that they have performed their engagements in a faithful and honourable manner, and now hand over to the Board an edifice of which no class of workmen need feel ashamed. WHAT IS STILL REQUIRED.—I must not, however, give you the impression that nothing further is required. Our class rooms, etc., are not yet properly furnished. Our library has room for many additional volumes. Not long ago I invited some one to send us Abbé Mingée's edition of the Greek and Latin Fathers. It is still wanting. Will some one signalize our entrance into this building by placing this unique treasure within our reach? Will some one set an example of liberality worthy of our merchant princes, of our church and cause, and which will stimulate others to do likewise by completing our original plans? I had almost asked, will the present auspicious occasion be allowed to pass without some appropriate manifestation of our wonted liberality? WORK TO BE DONE WITHIN THESE WALLS.—I cannot close without expressing, however briefly, my conviction as to the nature of the work to be done within these walls. Here we are to teach the highest of all sciences—the science of God and man. We are to train men to preach the everlasting Gospel, to expound and defend the word of the living God. We are to teach them to be 'fishers of men,' to seek to save souls and to edify the saints. Here are to grow up under our fostering care Home and Foreign missionaries and pastors for our churches. Here we are to offer, in these days of doubt and vacillation, uncompromising resistance to all forms of error. While cherishing and teaching the broadest charity, you may expect us to be thoroughly ~~intolerant~~ of all that would rob us of God's truth and jeopardise the souls of men. We do not think it ~~an impropriety, or contrary to common usage, or contrary to Christian~~ etiquette, to define and announce our creed and to ask others to do the same. The fact is that every man has a creed of some sort, and if it is good, and if he is honest and clear headed enough to give it expression, we can see no reason why he should put his light under a bushel. We shall not wilfully stand in the way of the onward march of intellect, and shall seek to help and not to hinder theological and scientific investigations of all sorts; but as none of the articles of our faith have yet been annihilated by the persistent efforts of modern scepticism you may expect to find us firmly and resolutely standing by the old creed as worthy of all acceptance and full of vitality and power, because containing the truth of God. We will not, however, discourage free thought in the proper sense of the term, in the sense in which it was defined by that distinguished statesman, the Right Hon. W. E. Gladstone, in an address before the Liverpool College in December last. He said: 'Saint Paul, I suppose, was a teacher of free thought, when he bade his converts to prove all things: but it seems he went terribly astray when he proceeded to bid them "hold fast that which is good;" for he evidently assumed that there was something by which they could hold fast. And so he bade Timothy keep that which was committed to his charge; and another Apostle has instructed us to "earnestly contend for the faith which was once delivered unto the saints." But the free thought of which we now hear so much, seems too often to mean thought roving and vagrant more than free; like Delos in the ancient legend, drifting on the seas of Greece, without a root, a direction or a home.' Interesting and appropriate addresses were also delivered by Judge Torrance, Principal Cavan, Dr. Taylor, and Dr. Jenkins. Following these gentlemen, a very eloquent and stirring address was delivered by Brahmin Sheshadrin, a native missionary from Madras, who arrived during the evening, and was cordially received, and listened to with great attention.—*Montreal Gazette.*

8. VALEDICTORY BY THE EDITOR OF THE CANADIAN FREEMAN.

THE CHIEF SUPERINTENDENT OF EDUCATION.

As we are about relinquishing our connection with the *Canadian Freeman* newspaper, we would wish to part on friendly terms with all individuals of every denomination with whom we have come in editorial contact, or whom, as in duty bound, we have conscientiously differed from during our career as a journalist. We do not now, and never did, bear any malice against any person whatever, not even towards the proprietor of the *Globe*; but it is impos-

sible for the editor of a newspaper, especially a newspaper representing a minority, to pursue his course without coming into collision with those holding opposite views. Men in power are always, to the other side, intolerant. In this country at least they represent, or are supposed to represent, the majority; those who dissent from their peculiar views must fight an up-hill battle; the crowd is against them, as the Jews of old opposed Christ, and the upholders of the Roman Empire his followers. But the Church to which we have the happiness to belong teaches charity; it says "Love your enemies," on matters of conscience do not give away an inch, maintain your rights, even should those enemies insist that "We will have no king but Caesar." Before relinquishing the editorial pen, therefore, we should like to say a few words on a gentleman whom we have for years steadfastly opposed, and whose opinions on many, but especially educational, matters, we have strenuously combated, and nevertheless have in a certain sense admired, and would, were he sought but Chief Superintendent of Education, hold in the highest esteem.

We maintain certain views on the subject of Education; we believe that when Our Lord uttered his command, "Go, teach all nations," he intended that those words should be taken in their fullest sense. You cannot bring up a youth in a Protestant or non-Catholic school, and expect that youth to be a firm believer in the Catholic faith. History, morals, geography—everything is taught from a Protestant standpoint, and of course the result must be that the boy on reaching manhood will view everything through Protestant spectacles. The wisest of men has stated that a child will go as he is trained up. The same effect therefore is produced in a Catholic school or in a Pagan school, as to Catholic or Pagan principles. The Church alone in Christian countries teaches with an infallible voice. On matters of faith she cannot err, and is quite likely to be right on educational or other things. This is our belief; therefore we hold it as a *sine qua non* that a Catholic child, where possible, should be reared up and receive its training in faith and morals, and on all subjects of learning, in a Catholic school, and under the supervision of the priesthood. In this view we differ completely from our venerable opponent, the Chief Superintendent of Education.

The Reverend Egerton Ryerson holds what the civilization of this age terms "liberal" views: he advocates the advancement of the masses, or educating every one, no matter what his position in society may be. The best part of an eventful life has been devoted by him to ~~expressing~~ *his personal opinions* on this subject. He is essentially a man of one idea, and he is a very determined, resolute and personally courageous person. It is individuals of his stamp who have made their mark in the world. As to politics he has really none; but in free thought, in educating the masses he does believe. From the various educational systems of constitutional England, despotic Prussia, republican America, Holland, Ireland and Scotland, with the assistance of his own powerful intellect, he has perfected a plan, according to non-Catholic ideas, an improvement on all of them, maintaining their best, rejecting their worst features. He has been assailed by various denominations and classes of our citizens, by dissatisfied freeholders, by childless rate-payers, by representatives of churches, by Grit and Conservative newspapers, by politicians and by administrations holding the most opposite views, and yet he has managed to stand his ground, and not only this, but to enforce his educational opinions on the great majority of the people of this Province. At one time he is reported by a Tory Governor as "a dangerous man," and a certain Toronto journal has pursued him with fierce malignity for years, and all kinds of politicians have at different periods attacked him in the bitterest way, and yet Egerton Ryerson has triumphed, and is at this day, in spite of all opposition, the great and successful vindicator of free, universal education. This is the man whom Governments do not care to interfere with, and who cannot be crushed; who, in spite of his seventy years, is still as fresh and as vigorous as ever, and as ready, in defence of his ideas, to smite his enemies "hip and thigh" either through a public journal or in a pamphlet of 365 pages. During our entire career we have opposed the Doctor; but we are fully aware how difficult it is to make headway against a man of his ability, holding but one idea and resolved to win. We have often wished that a Ryerson would present himself as a representative of our Catholic masses to fight as determinedly for us as he has for his Protestant fellow-countrymen—a man who would endeavour, under all circumstances, to procure what his Eminence Cardinal Cullen and the Irish Hierarchy are now labouring to attain, a Catholic, purely Catholic education for Catholic people.

Secular instruction, in spite of all that has been said to the contrary, does not do away with crime; if, however, combined with religious teaching, it certainly does. An educated rascal is infinitely more depraved and bad than an illiterate evil doer. To make a man a Christian, you must rear him up in Christian principles,

otherwise it will require a miracle, or direct action on the part of God, to convert him; therefore the first and most essential point in educating is to lay the foundation on the sure basis of Catholicity; after this, teach anything you please, provided it is not opposed to the religion of Christ. The Doctor's pet theory is non-religious instruction at school, religious ditto at home, which would, of course, answer were all parents equally wellinformed; but suppose, as is frequently the case, that the parent, though sufficiently well grounded in his own faith, has not the gift of being able to instruct others, then the superiority of our system is shown, as the school supplies the deficiency. Faith first is our motto; and better an illiterate lot of the lowest class who has faith, than the most accomplished and refined of aristocrats without it. The ordinary godless school will train up an amiable and may be even learned person, but if moral and the possessor of lofty principles, not from love of his Creator. We might hold forth on this subject to an indefinite extent, did time or space permit. The *Canadian Freeman* has always been to the best of our humble abilities a consistent advocate of Catholic education, and in retiring from its management we would, as previously stated, wish to offer the right hand of fellowship to all we have encountered, either lukewarm friends or foes, to part on amicable terms with all from whom we have differed. Foremost among these is the Chief Superintendent of Education, and we have therefore devoted this, our last article, to him. We have written column upon column against him, for the past fifteen years. We have tried with all our might to put him down, and yet he is a man for whose talents, resolution and dogged perseverance we have the highest respect, for whose courtesy and gentlemanly bearing towards our co-religionists we offer our acknowledgments, and for whom the Protestant people of this Province will, at some not very distant period, do, what a learned American historian stated the North West would do for Marquette, "build his monument."—*The Editor of the Canadian Freeman*.

III. Educational Items.

Prof. Tyndal has been elected to preside over the next meeting of the British Association, to be held in Belfast, beginning on August 9, 1874.

An effort is making in England to meet by subscription the expenses of the action recently brought by the excluded lady students against the University of Edinburgh.

Pupils going through the regular course of the Atlanta, Ga., public schools, study Latin and French. Boys who are preparing to enter college take Greek and omit French.

The School Committee of Chelsea, Mass., has ordered that no teacher shall inflict punishment upon a pupil until after consulting with the sub-committee for his school.

Education in Ohio—if we are to believe Mr. Harvey, a speaker at the late Teachers' Institute—needs three things: A State Normal School, County Superintendency, and "township district" system.

The Chandler scientific department at Dartmouth was awarded the highest prize—a silver medal—for a collection of mechanical and free-hand drawings and herbariums at the recent State fair held at Manchester.

The Worcester, Mass., Academy, which has recently been remodelled and enlarged, has received subscriptions to its endowment fund to the amount of \$82,687. Of this sum \$39,687 remains to be collected or put in a substantial form.

It is a pleasure to note the recent Teachers' Institute at Rome, wherein all the lectures and lessons tended toward the new and bitterly longed for system of teaching pupils to understand and reflect, and not merely to remember.

The Teachers' Institute of Peoria, Ill., has been discussing the question of punishment in schools. One teacher thought that whipping was beneficial; another believed that the higher natures of children should be appealed to, and then said that corporal punishment was better than expulsion from the school; and another mentioned a glance of displeasure in the eye of the teacher.

Alexander Agassiz has received the grand Walker prize from the Boston Society of Natural History as a reward for his investigations in the natural history of the Echinoderms. This prize is awarded but once in five years, and for the most important investigation in Natural History within that period, the results of which have been published in the United States one year previous to the award. Two sums are at the command of the Council, \$500 and \$1,000, the latter of which was in this case unanimously voted.

Professor A. D. White, of Cornell University, made the other day a speech in defence of scientific education, before the Teachers' Institute at Binghamton. While praising agricultural colleges and scientific farming, he stated that little Portland county during the past year had received from the sale of butter alone \$1,500,000, which speaks well for a learned and intelligent management of dairies. In reference to religion and science, he said that religion has been made grander and deeper by the triumph of science.

According to the report of Senor Flores, Minister from Ecuador, there are in that republic five national colleges, with 757 students. There are six feminine seminaries under the control of Catholic Sisters, having 741 students. At Quito, the capital, there is a polytechnic school with nine professors; besides there are colleges of law and medicine and a school of trades—the latter after the model of the Catholic Protectory, at Westchester, N. Y., in which sixteen American mechanics are engaged as practical instructors. A good elementary education is also furnished.

IV. Mathematical Department.

1. FIRST CLASS ALGEBRA PAPER.

Solution of the 10th question in the First-class Algebra Paper (Examination of Public School Teachers, July, 1873).

Find a number which is greater by unity than n times the integral part of its square root; n being a whole number.

Let x be the integral part of the square root, and d the decimal part. Then

$$x^2 + 2dx + d^2 = nx + 1.$$

$$\therefore x(x - n + 2d) = 1 - d^2.$$

Since $1 - d^2$ is positive, therefore $x - n + 2d$ is positive. Now, first, suppose if possible $x < n - 1$. Therefore, since x and n are whole numbers, x is not $7n - 2$. $\therefore x - n + 2d$ not $72(d - 1)$: which, since $d - 1$ is negative, and $x - n + 2d$ has been shown to be positive, is impossible. Next, suppose if possible $x \geq n - 1$. $\therefore x$ not $< n + 1$. Therefore,

$$x(x - n + 2d) \text{ not } < x(1 + 2d)$$

$$\therefore 1 - d^2 \text{ not } < x(1 + 2d):$$

Which, since $1 - d^2$ is < 1 , is impossible. Therefore the only two values which x can have, are n and $n - 1$, and the required number

G. P. Y.

2. MATHEMATICAL PROBLEMS.

1. Extract the square root of a given straight line AB.
2. How many terms of the squares of the numbers 1, 2, 3, 4, &c., must be added, that the sum may be a rational square number?
3. At the bottom of a lake, a globe of elastic and condensable matter is known to be 2 inches in diameter, and at the surface 10 inches; required the depth of the lake.
4. Prove that the expressions,

$$-1 + \frac{\sqrt{-3}}{2} \times a, \text{ and } -1 - \frac{\sqrt{-3}}{2} \times a,$$

are cube roots of a^3 .

5. Detect the mistake in the following process:

Let $a = b$; $a^2 = ab$, or $a^2 - ab = 0$, and $a^2 = b^2$, or $a^2 - b^2 = 0$; thence $a^2 - ab = a^2 - b^2$, or $a(a - b) = (a + b)(a - b)$, or $a = a + b$; but $b = a$, then $a = a + a = 2a$ and $1 = 2$.

6. From what do the following absurdities arise?

$x^n + x^{n-1} = c$; multiply each side by $x^n - x^{n-1}$, $x^{2n} - x^{n-1} = cx^n - cx^{n-1}$; transpose, complete the square, &c., $x^n = x^{n-1}$. Again, $x^n + bx^{n-1} = c$; multiply by $x^n - bx^{n-1}$, $x^{2n} - b^2 x^{2n-1} = cx^n - bcx^{n-1}$; from this expression we get $x^n = bcx^{n-1}$; hence $x = b$.

Problems contributed by correspondents.

7. By John Ireland. Which is best? Interest at 6 per cent. compounded annually on \$1,000 for 20 years, or at 5, compounded every instant?

8. By John Sheehan. A. bought a load of carrots from B.; sells them at 17½ cents per bushel, and finds that he has gained on the sale of one dollar, as much as he paid for one bushel. Find the cost per bushel, by arithmetic.

9. By G. W. Sheldon, Morpeth. A hollow cone rests with its base on a smooth horizontal plane, and water is poured in at the top. How high will the water rise before it lifts the cone off its support, and escapes?

V. Monthly Report on Meteorology of the Province of Ontario.

1. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for SEPTEMBER, 1873.

OBSERVERS.—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—J. B. Spotton, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—George Hickson, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., L.L.B.; Windsor—J. Johnston, Esq., B.A.

STATION.	ELEVATION. Above the Sea. Above the Lake. West Longitude. North Latitude.	BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT				TEMPERATURE OF THE AIR.										TENSION OF VAPOUR.			
		MONTHLY MEANS.		HIGHEST.	LOWEST.	RANGE.	MONTHLY MEANS.	DAILY RANGE.		HIGHEST.	LOWEST.	WARM-EST DAY.	COLD-EST DAY.	MONTHLY MEANS.		HIGHEST.	LOWEST.	WARM-EST DAY.	COLD-EST DAY.
		7 A.M.	9 P.M.					Mean Maximum.	Mean Minimum.					Mean Temp.	Mean Temp.				
Pembroke.	45° 50' 77° 10'	428	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall.	45° 0' 74° 50'	137	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barrie.	44° 25' 78° 45'	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belleville.	44° 20' 78° 25'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goderich.	43° 45' 81° 42'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford.	43° 25' 80° 58'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton.	43° 12' 79° 50'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Simcoe.	42° 51' 80° 14'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Windsor.	42° 20' 83° 00'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Approximation. aOn Lake Simcoe. cNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. A On Lake Ontario. J On the Ottawa River. K Close to Lake Erie. m On the Detroit River. t Inland Towns.

STATION.	HUMIDITY OF AIR.	WINDS. NUMBER OF OBSERVATIONS.										ESTIMATED VELOCITY OF WIND.				AMOUNT OF CLOUDINESS.				RAINFALL.				SNOW.				AURORAS.			
		MONTHLY MEANS.		SURFACE CURRENT.		WINDS.		NUMBER OF OBSERVATIONS.		MOTION OF CLOUDS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.		MONTHLY MEANS.	
		7 A.M.	9 P.M.	North.	South.	East.	West.	North.	South.	East.	West.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.	7 A.M.	9 P.M.
Pembroke.	87	66	83	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall.	88	67	85	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barrie.	87	60	78	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belleville.	80	71	88	81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goderich.	84	68	83	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford.	90	70	87	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton.	78	65	80	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Windsor.	74	52	77	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Where the clouds have contrary motions, the higher current is entered here.

Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

CORNWALL.—Lightning, 18th. Lightning with rain, 1st, 4th, 5th, 19th, 27th. Frost, 15th, 16th, 17th, 22nd. Wind storm, 1st. Fog, 1st, 24th. Rain, 1st, 2nd, 4th, 6th, 8th, 16th, 18th, 20th, 23rd, 26th, 28th, 29th. Month marked by great and rapid changes of temperature. BARRIE.—Thunder with rain, 12th, 26th. Lightning and thunder with rain, 18th, 27th. Rain, 1st, 3rd, 5th, 12th, 15th, 17th, 20th, 22nd, 25th, 27th, 30th. Perfect rainbow at 6 p.m. on 7th.

Frost, 14th, 15th, 17th, 21st, 30th. Wind storms, 1st, 12th, 28th. Fog, 4th, 8th, 11th, 23rd, 24th. Rain, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 27th, 28th, 29th. Difference of mean temperature from average of 12 years (September) - 1.05.

HAMILTON.—Lightning, 11th, 27th. Frost, 14th. Wind storm, 28th. Fog, 24th. Rain, 3rd, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 29th.

SAMCE.—Wind storms, 12th, 18th. Rain, 1st, 5th, 6th, 12th, 18th, 22nd, 28th.

WINDSOR.—Lightning and thunder with rain, 19th. Lunar halo, 9th. Meteors, (2) 23rd, (3) 25th, (2) 27th, (2) 30th. Frost, 16th, 21st. Wind storms, 1st, 4th, 15th, 18th, 29th. Fogs, 9th, 10th, 23rd. Rain, 3rd, 7th, 12th, 19th, 22nd, 24th, 28th, 29th.

VI. Papers Relating to Science.

1. AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

A correspondent of the *New York Observer* thus summarizes the labours of the *Savans* at the late meeting of the Association at Portland, Maine:—

"I feel great perplexity in selecting so few from the 156 papers entered for reading at the American Association. Many interesting and able papers are unintelligible without the inspection of objects or drawings; others are mainly addressed to the eye. Others really interest only those who are prosecuting investigations in certain fields. But there is enough left to embarrass one in the selection. And a hasty sketch cannot be expected to keep to the order in which a deliberate editing would place them."

"*Safety at Sea*.—Prof. Rogers, of Harvard Observatory, showed that the ratio of wrecks is increasing. While in ten years, from 1848 to '58, the increase of British shipping was 38 per cent., British wrecks had increased 59 per cent. between 1852 and '62. Later the increase of shipping from 1858 to 1868 was 44 per cent., and the wrecks from 1856 to 67 was 57 per cent. In 1869, with an actual decrease of shipping of 4 per cent., the wrecks increased 21 per cent. The percentage of wrecks by preventible causes is about 70. Thirty-three times as many insured vessels are wrecked as uninsured.

"Difference of longitude is shown by the difference between the sun and the chronometer; the error of a good chronometer may cause an error of nineteen miles in twenty days. To this we may add the errors of sextant observations, which are likely to exceed two miles. Navigators will not believe that they are as inaccurate as this, and many vessels are lost from their confidence."

Rev. Dr. Hill, of the First Church in Portland, ex-President of Harvard and of Antioch. A venerable toad of his had a favourite location under a bee-hive, and every over-laden bee that fell near him was a sure prey, till, at length, the toad lost an eye. Then, for quite a while, the tongue missed its mark, and the bee was not secured without repeated attempts. Practice at length remedied the difficulty, and he finally lassoed his bee at every trial. Our toads do not use their hands in cramming down an uncomfortably large mouthful, as those in England do, but thrust the projecting part against something. In the doctor's smooth walk one was obliged to throw his heels up in the air and rest his whole weight upon the projecting part of a locust (commonly called a grasshopper, but incorrectly, for all grasshoppers are green). In the case of an enormous earthworm which was escaping when nearly swallowed, the doctor's tired toad served a *ne exeat* on it, by grasping it through the walls of his own abdomen with a hind foot.

"*Snakes*.—Mr. G. Brown Goode, Curator at Middletown, Ct., has ascertained beyond peradventure that young snakes of many ovoviviparous species take refuge when alarmed in the old one's throat and stomach. This is not ascertained of any oviparous species; but in an English lizard the same has been once observed.

"*Doses of Medicine*.—Mr. H. W. Wiley, of Indianapolis, advises the diluting of all strong medicines to a uniform dose before selling them. (Some do not like large doses. Apothecaries are already too prone to dilute; and the precise strength of a diluted substance is hard to discover.) He would have all prescriptions in metric weights and measures, which are simpler and safer. Mr. E. B. Elliot, of the Treasury Department, proposes a 'tergram'—a third of a gramme—as a temporary means of stepping from old measures into new. Five grains, drops, or minims, make almost exactly a tergram; 30 tergrams are a decagram (not decigram, which is 100 times smaller). 100 tergrams are an ounce nearly, and 30 ounces a kilo, or kilogram (double pound). This is near enough for all medical purposes, and is an ingenious means of facilitating a change in which we must advance or be dragged. Mr. Elliot is having a *vern*-measure constructed, in which the unit shall be a ten millionth of the earth's radius, as the metre is of its quadrant. A circle must be twice as many metres in circumference as it is *verns* across; it will be convenient to tin-plate workers. He proposes this as an astronomical measure: 10,000,000 *verns*=1 radial (earth's semi-diameter); 1,000 radials=a kiloradial; 1,000 kiloradials=a bikilo-

radial, &c. The moon is at a distance of 40 radials, the sun 23 kiloradials. The distance of the nearer stars is to be estimated in trikiloradials, the more distant in quadrokiloradials, and the stellar clusters quintokiloradials. [To all this the objection is that the human mind can conceive no difference between trikiloradial and quintokiloradial, and the inch is about as useful a measure for these distances as any other].

"*Brains*.—Prof. Burt Green Wilder presented thirteen papers, mostly short, all relating to his speciality—the anatomy of animals. The most interesting of these were on brains. He maps them by their fissures, which are much easier to outline than the 'convolutions' which they outline. The lowest animals have no fissures; the more of them, the more mental power. The animals of the same species have them not alike, nor are the two halves of the same brain alike. The adult brain is less in proportion to the whole body than the young. The dissection of the brains of paupers and criminals would afford little information, so little do we know of their real character; those of our friends we are unwilling to study. But dogs are diverse in character, and we know them well. So he has made thorough investigations for a *cynophrenology*; but he has found no relation between brain and character. He is prepared to maintain that there is no such science as phrenology.

"*Animal Structure*.—Prof. Wilder maintains that the anterior and posterior halves of the body of an animal correspond—the pelvis is a modified head, and every organ has its analogue. So the right thumb corresponds to the right little toe, &c.

"Prof. Theo. C. Hilgard believes in a radiate constitution of all animals and plants—believes in fifths, and not halves. He is very earnest and fluent, but cannot speak an intelligible sentence of English.

"*Indian Houses*, which are found of such vast proportions among the Pueblo Indians, were shown by Prof. L. H. Morgan to be not palaces of chiefs, but communal residences. Notwithstanding the vast difference between these spacious and now ancient edifices and wigwams of birch bark, it is supposed that all the Indians of America, the Eskimo excepted, are of one race."

VII. Advertisement.

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